

OPERATOR'S MANUAL

OM-H35-353

This manual
contains correct
information
regarding lubrication,
operation, adjust-
ments, service,
and parts

JOHN DEERE **25** **COMBINE**

(Serial No. 25-131456 and Up)



For the best service see your
JOHN DEERE DEALER
Use Only Genuine John Deere Parts

FOREWORD

The purpose of this book is to supply useful harvesting information to owners and operators of John Deere 25 Combines. This information should help in choosing the proper adjustment and equipment required to meet each harvesting condition.

A Combine must be constructed to harvest in a wide range of conditions. Average conditions can be handled by the standard equipment with which the combine is shipped. However, unusual conditions may require some special equipment.

The information given in this Manual will afford a clear understanding of the fundamentals of combine harvesting. **The proper use of these fundamentals to suit the condition in which the machine is operating is up to the operator.**

Conditions vary, not only from year to year and section to section, but also from field to field. It is, therefore, obviously impossible to give definite rules for combine operation that will directly apply in every case. It is entirely possible that there are several solutions to any particular threshing problem. For this reason, we give numerous suggestions, some of which may conflict; you can use the one that best suits your needs.

It is often necessary to settle on a compromise of adjustments to save the maximum amount of the crop. To illustrate, in a trashy condition where a large volume of straw stems, weed joints, etc., is being delivered to the cleaning unit along with the grain, it is advisable to open the chaffer and sieve a little wider and accept a slightly dirtier sample rather than to close the sieves and receive a cleaner sample but allow too much grain to pass out of machine with the blanket of trash.

SERIAL NUMBER.

Record the serial number of your combine and engine (if used) in the spaces provided below.

The combine serial number is stamped on the name plate, located on the right-hand side of the separator just above the tailings auger. The engine serial number is on the engine name plate, located on the front of the engine just above the crankcase oil level gauge.

COMBINE SERIAL NO. _____

ENGINE SERIAL NO. _____

DATE PURCHASED _____

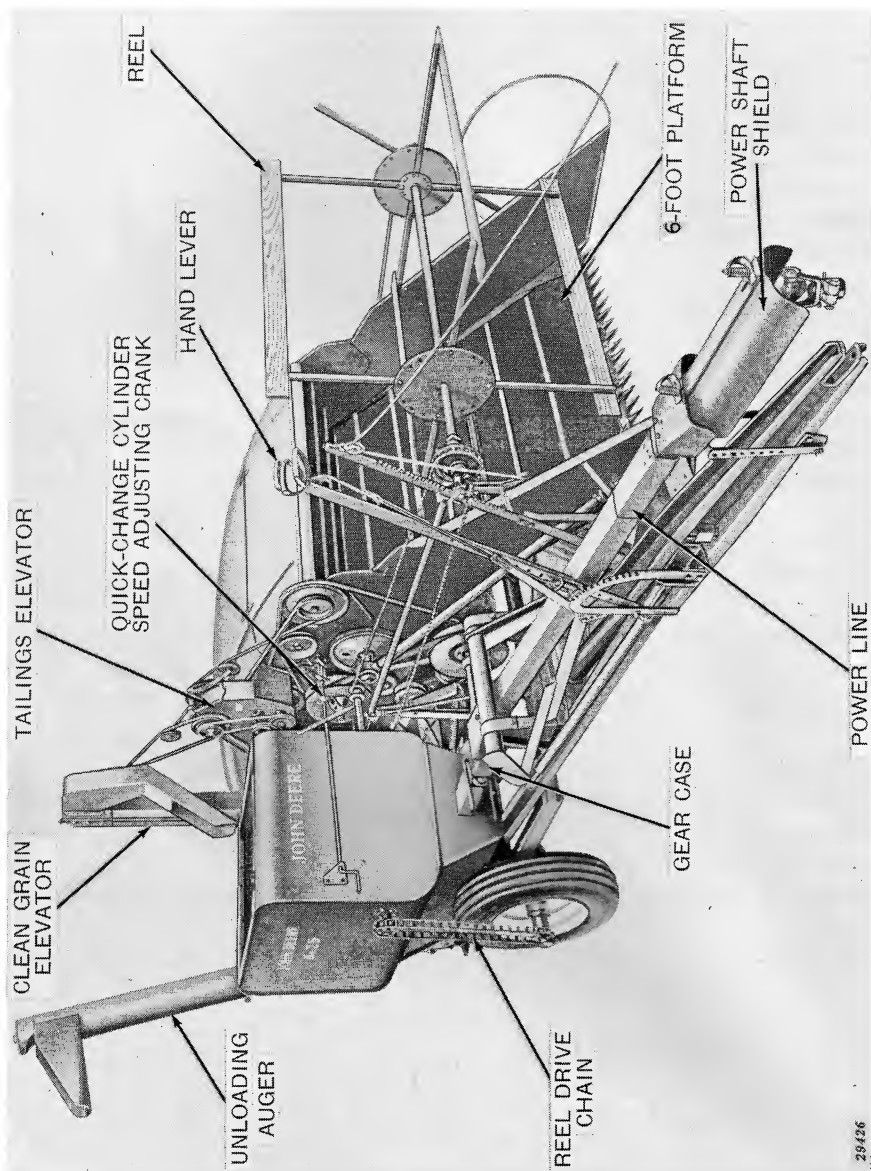
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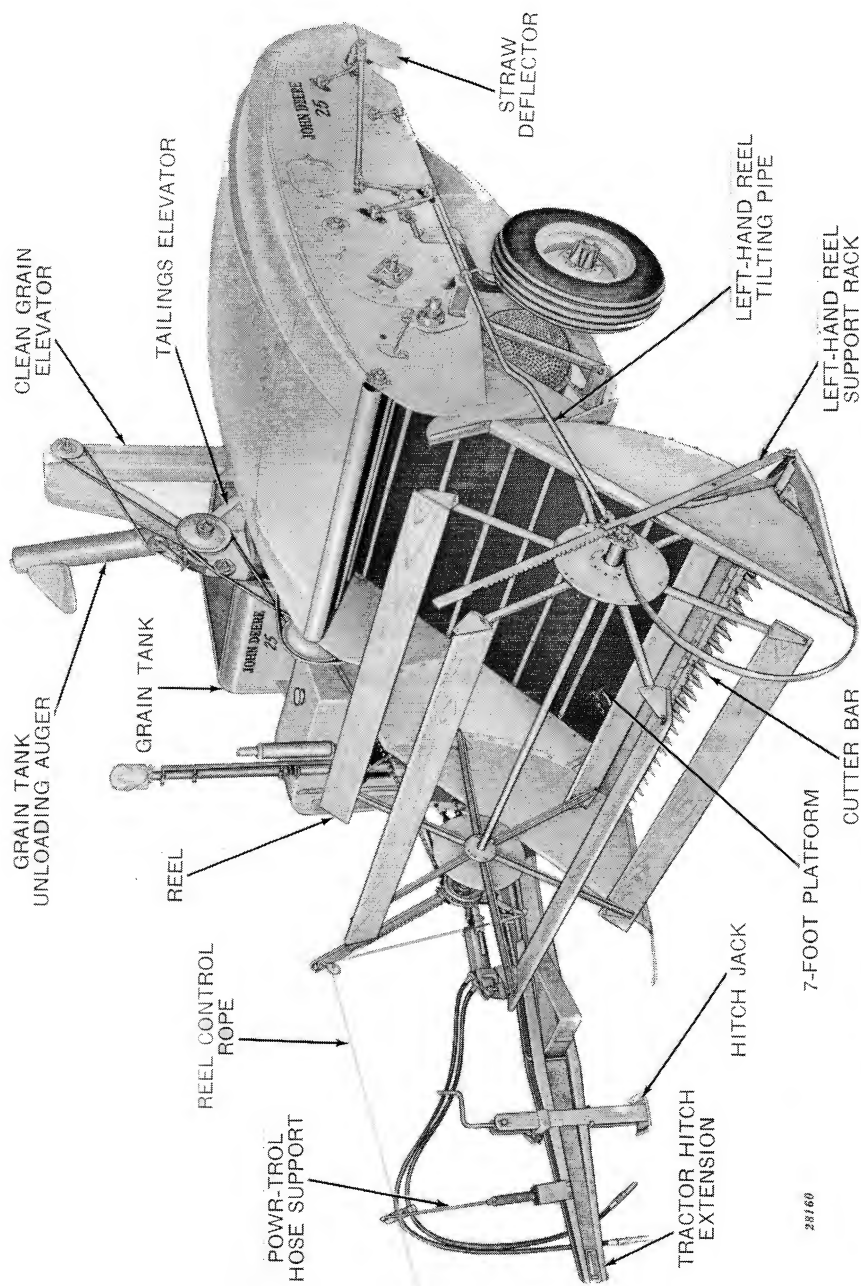
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29426

**John Deere 25 Combine—Power Take Off Grain Tank Machine
with 6-foot Platform and Hand Levers**



John Deere 25 Combine—Engine-Driven Grain Tank Machine with 7-foot Platform and Powr-Trol

SPECIFICATIONS AND DATA

Distance Between Divider Points	6 Ft. Platform . . .	72. In.
	7 Ft. Platform . . .	84 In.
Length of Cutter Bar	6 Ft. Platform . . .	66 In.
	7 Ft. Platform . . .	78 In.
Right- or Left-Hand Cut	Left-Hand	
Sickle Front or to Side of Cylinder	Front	
Type of Platform	Hinged	
Range of Cutting Height	1½ In. to 40 In.	
Type of Conveyor	Canvas	
Width of Canvas	59 In.	
Reel Drive	Ground-Driven	
Reel, Adjustable from Tractor Seat	Yes	
Number of Slats on Reel	6 Ft. Platform . . .	4 Slats*
	7 Ft. Platform . . .	6 Slats
Type of Cylinder	Rasp Bar	
Width of Cylinder	60 In.	
Diameter of Cylinder	15 In.	
Speed Range of Cylinder	430 to 1685 R.P.M.	
Type of Separation	Unit Rack	
Length of Separating Surface	76 In.**	
Width and Length of Chaffer and Cleaning Sieves	36 x 34 In.	
Width of Separator, Rear	60 In.	
Recleaner Available	Yes	
Type of Drive	Power Take-Off or Engine	
Drive to Cylinder	V-Belt	
Number of Wheels	2	
Tire Size	7.50 x 16	
Cylinder Bearings	Sealed Ball	
Fan and Beater Bearings	Straight Roller	
Wheel Bearings	Tapered Roller	
Length over all (with Tractor Hitch Extension)	19 Ft. 4 In.	
Width over all	6 Ft. Platform . . .	10 Ft. 2-5/8 In.
	7 Ft. Platform . . .	10 Ft. 11-½ In.
Height over all	9 Ft. 2 In.	
Capacity of Grain Tank	25 Bu.	
Shipping Weight, Standard Equipped	Approx. 3368 lbs.	

*Six or Eight Slats Optional on 6 Ft. Platform

**Measured in a straight line from center of cylinder shaft to point of discharge of straw.

LUBRICATION

The economical and efficient operation of any machine depends on regular and proper lubrication of all moving parts with a quality lubricant. This is especially true of farm equipment which must operate in hot, dusty conditions over rough ground. Neglected lubrication quickly leads to reduced efficiency, heavy draft, wear, breakdown, and costly replacement of parts.

Wipe dirt from grease fittings before greasing.

Replace all missing grease fittings immediately.

Lubricate all parts thoroughly with a good grade of gun grease but avoid excessive lubrication. Excessive lubricant will drop onto belts, causing slippage.






Keep main drive gear case filled with a good grade of gun grease.

Wheel bearings are packed with grease at the factory. They should be repacked at the beginning of each season.

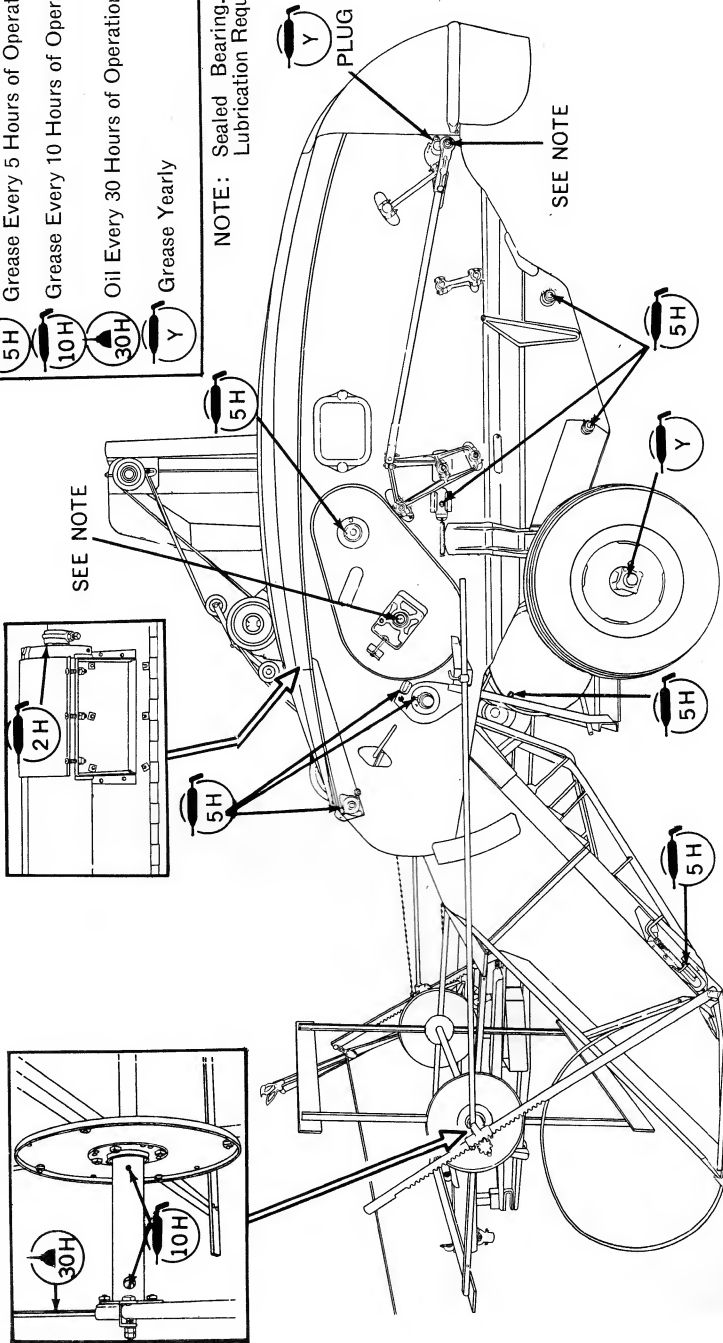
Chains, sprockets and sickle should be oiled except when working in sandy soil conditions.

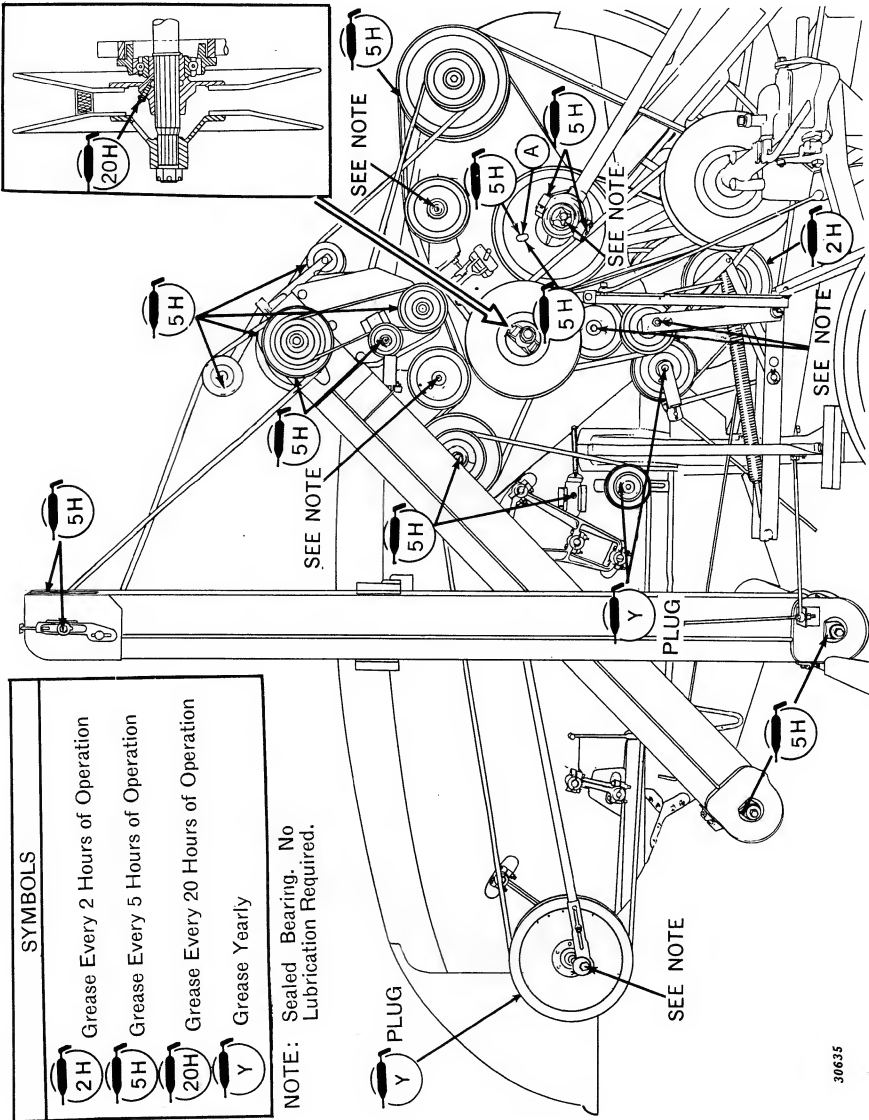
Do not overlook the grease fitting in right-hand end of feeder canvas idler roller or the grease fitting in platform canvas drive roller right-hand bearing box. Both these grease fittings must be greased through hole in platform canvas drive roller sheave, see "A," page 9.

Important Note: The "symbols" on the charts that follow apply to machines that have been thoroughly broken in. When the machine is new, lubricate the bearings more often during the first few days of use.

SYMBOLS	
	Grease Every 2 Hours of Operation
	Grease Every 5 Hours of Operation
	Grease Every 10 Hours of Operation
	Oil Every 30 Hours of Operation
	Grease Yearly

NOTE: Sealed Bearing. No Lubrication Required.



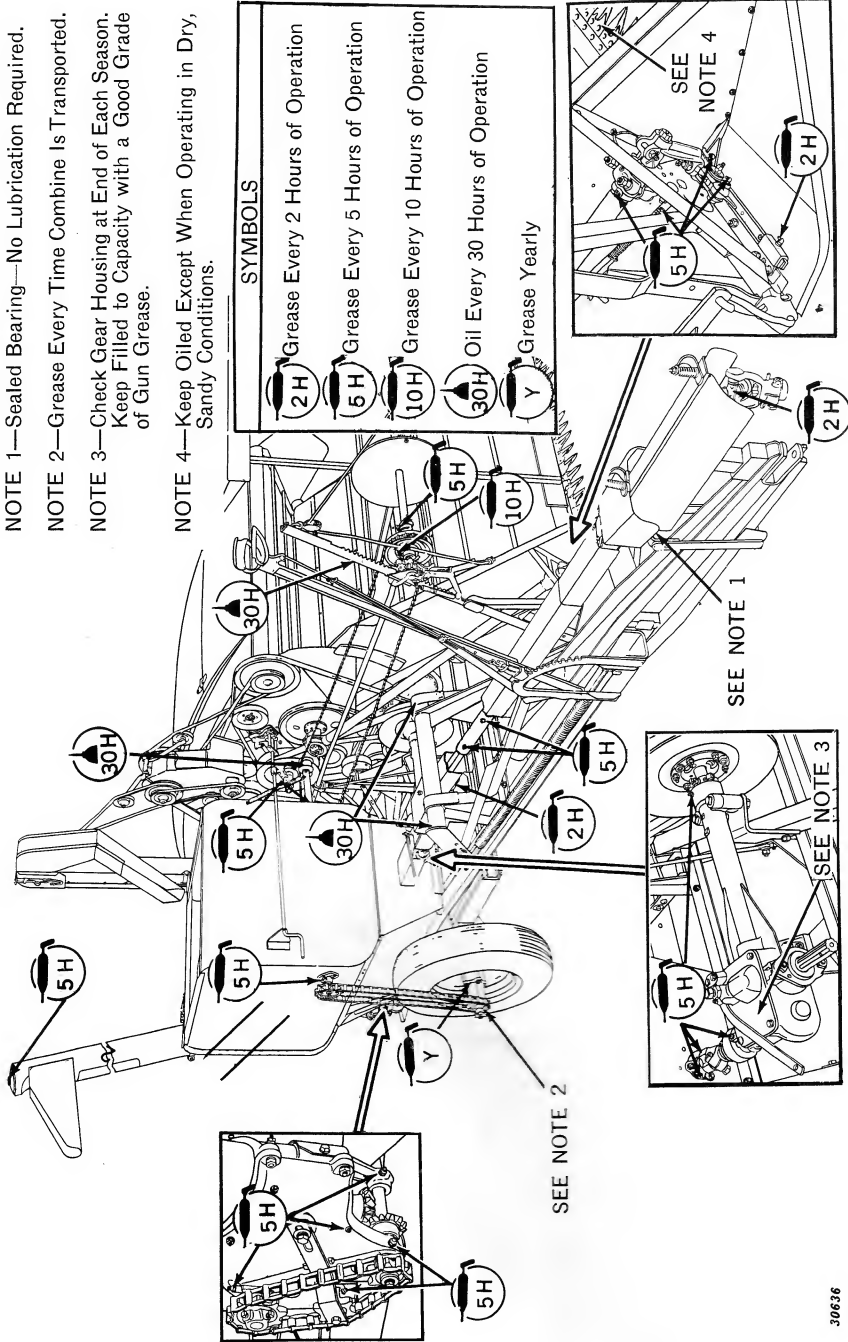


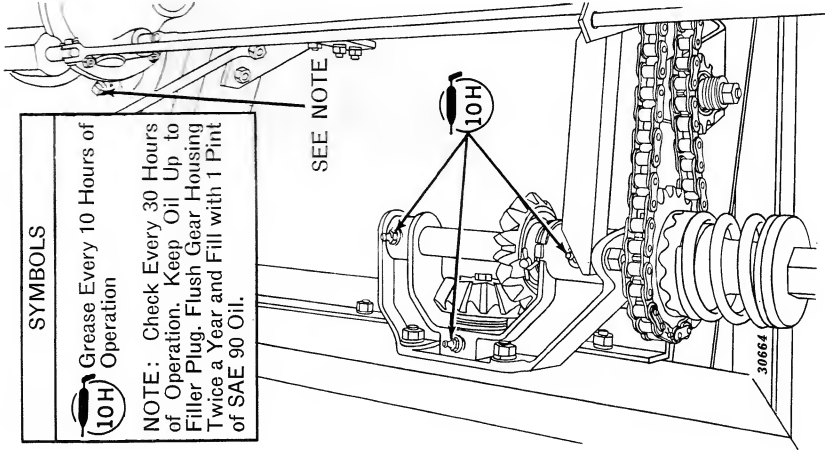
NOTE 1—Sealed Bearing—No Lubrication Required.

NOTE 2—Grease Every Time Combine Is Transported.

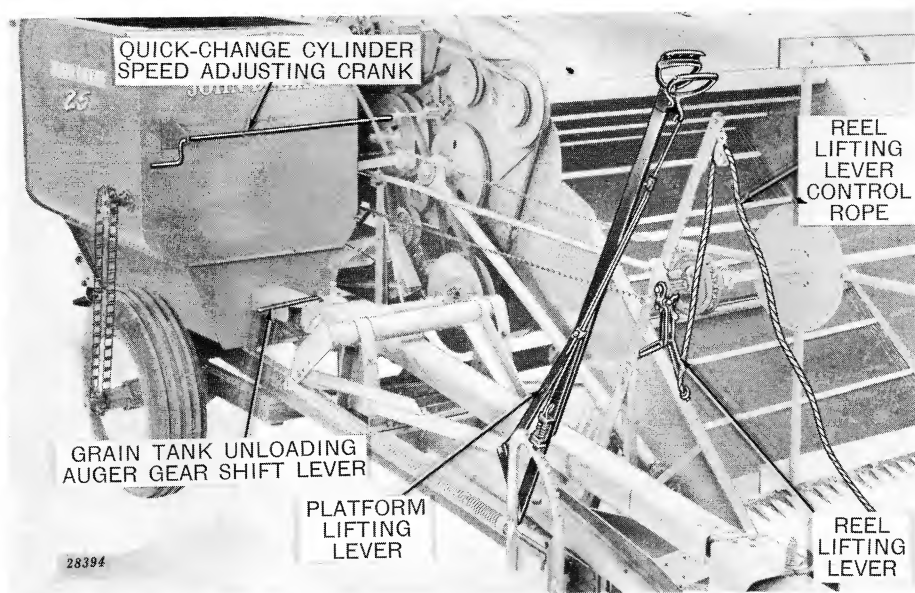
NOTE 3—Check Gear Housing at End of Each Season. Keep Filled to Capacity with a Good Grade of Gun Grease.

NOTE 4—Keep Oiled Except When Operating in Dry, Sandy Conditions.





COMBINE CONTROLS



Grain Tank Combine with Hand Levers

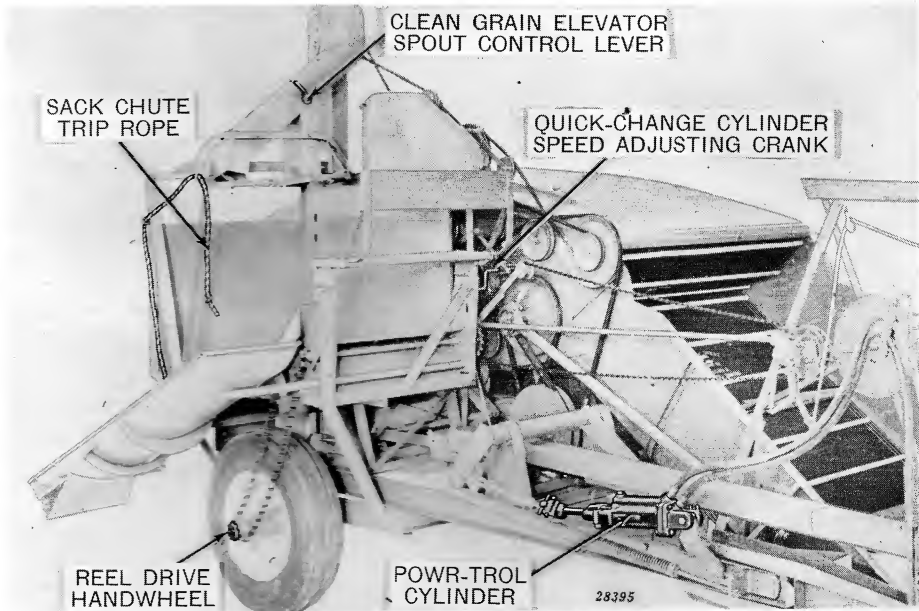
Quick-Change Cylinder Speed Adjusting Crank is used to change the speed of the cylinder to meet the varying field conditions during the day. With the 12-3/4" sheave on the cylinder shaft, one turn of the crank clockwise will decrease the speed approximately 25 R.P.M. One turn counter-clockwise will increase the speed approximately 25 R.P.M. With the 15" sheave on the cylinder shaft the speed will be decreased or increased approximately 12 R.P.M. with each turn of the crank.

Grain Tank Unloading Auger Gear Shift Lever moved forward will disengage the separator and engage the grain tank unloading auger.

Platform Lifting Lever moved forward will raise the platform; moved to the rear will lower the platform.

Reel Lifting Lever raises or lowers the reel. Each stroke of lever raises reel two notches on racks.

Reel Lifting Lever Control Rope is used to raise or lower the reel without leaving the tractor seat.



Sacker Machine with Powr-Trol

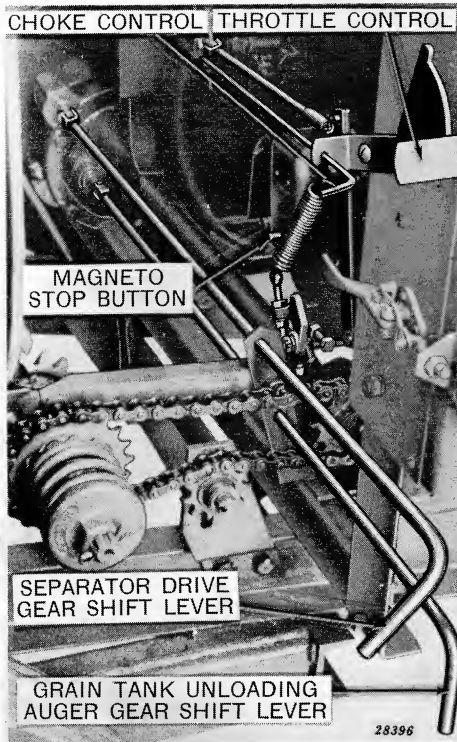
Sack Chute Trip Rope when pulled forward releases the door at the rear of chute, and deposits filled sacks on the ground.

Clean Grain Elevator Spout Control Lever moved to the left diverts the grain down the left-hand spout; moved to the right diverts the grain down the right-hand spout.

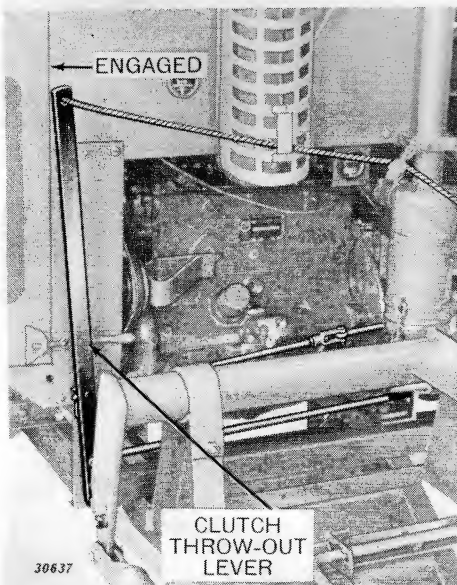
Reel Drive Hand Wheel when turned clockwise engages reel drive sprocket on right-hand wheel. Turned counter-clockwise disengages sprocket; this always should be done when transporting combine.

Powr-Trol Cylinder is used instead of the platform lifting lever to raise or lower the platform. The operation of this cylinder is controlled from the tractor seat.

CONTINENTAL ENGINE MODEL Y112-618



Engine Controls



Clutch Throw-Out Lever

Magneto Stop Button.

This button is used to stop the engine. Press in the button and hold it there until the engine is stopped.

Throttle Control. When pulled out and locked the throttle control is in idling position. To open throttle, flip up throttle control lock and push throttle in towards the engine.

Separator Drive Gear Shift Rod. When pulled out, this rod engages the separator drive. Disengage shift lever before grain tank unloading auger is put into use.

Grain Tank Unloading Auger Gear Shift Rod. This rod engages the grain tank unloading auger when pushed in.

Choke Control. The choke control operates the butterfly valve on the air intake side of the carburetor. When pulled out it chokes the carburetor to help start the engine.

Clutch Throw-Out Lever. This lever engages the clutch when it is in the right-hand position.

OPERATION

BREAKING-IN THE NEW COMBINE

All V-belt drives should be checked carefully. See the illustration on page 88. Keep belts tight enough to eliminate slippage because a belt can be ruined very quickly if it is allowed to slip in the grooves of a sheave for any length of time. Excessive heating of a sheave is a sign of belt slippage. New belts will stretch slightly after the first run-off and tension should be increased. Be sure all shafts turn freely.

Remember, the break-in period is just as important with a new combine as it is with a new automobile. Don't try to "step it down to the floor" right at the start. If you do, trouble is sure to develop later.

STARTING IN THE FIELD

Understand Function of All Working Units.

Before starting to combine, turn to pages 20 and 21 where you will find a cutaway view showing the working units of the machine. Study this illustration until you thoroughly understand the function of each unit. Also, read over the section of the manual on "Adjustments and Service" to become familiar with the adjustments necessary to obtain best results.

Don't Start Combining Until Crop Is Ripe.

It is only natural for the owner of a new combine to want to try his machine as early as possible. This results in most new combines being started in the field before the crop is ready for combining.

A combine should not be started until the grain is dead ripe. **If the threshed grain feels damp or is easily dented with the fingernail, the moisture content is usually too high for safe storage.**

Grain crops containing **14% moisture or less** are considered dry enough for safe storage. Arrangements can usually be made at the local grain elevator for necessary moisture tests. The maximum moisture content for safe storage depends upon the crop to be combined and in part upon atmospheric conditions, storage facilities, foreign material in the grain, whether handled in bulk or sacks, and whether the crop is for market or feeding.

The first round in the field is usually the hardest. The forward speed

STARTING IN THE FIELD—Continued

of tractor should be as slow as possible to reduce the volume of material entering machine. With a power-driven machine the tractor should be run at full throttle to keep the combine mechanism up to full speed thus guarding against slugging and clogging. **Shift the tractor to a lower gear to obtain slower travel speed but do not throttle down tractor engine.**

LIMITATIONS OF A POWER DRIVEN COMBINE

The operating efficiency of any power driven machine is directly proportional to the tractor power available and crop condition. Steady, smooth power is of vital importance—any fluctuations in tractor engine speed is reflected in the speed of the combine—uneven speed results in loss of grain, inferior threshing and, in extreme cases, complete plugging of the machine. Every precaution should be taken to maintain uniform speed.

THE OPERATOR

The degree of satisfaction given by this or any other combine is directly dependent upon the carefulness of the tractor operator. Once the combine has been adjusted to meet the crop condition, the rest is up to the operator.

Excessive travel speed is one of the greatest causes of trouble. Traveling at a high rate of speed over rough ground can cause extra wear and breakage that would not occur if the combine was pulled at a more reasonable speed. Overloading, resulting in a loss of grain, is another evil of fast ground travel. More straw is taken in than the machine can handle. Grain is carried over the rack and sieve if layer of material passing over them is too heavy.

On a power-driven combine, the tractor engine must be operated at full throttle at all times. Any reduction in travel speed should be handled by shifting to a lower gear instead of throttling the tractor engine.

When stopping the tractor to unload grain tank, or for any other reason, the combine should be cleaned out before disengaging power takeoff. If necessary to stop in the middle of the field, the combine and tractor should be backed up a few feet before proceeding ahead. This will allow the combine to come up to speed before grain enters.

If there are ditches in the field that require throttling down the tractor engine to cross them, cut around the ditches rather than reduce the engine speed.

Watch the condition of the crop carefully and adjust platform so just enough of the straw is cut to get all the grain. If, in a certain section of the field, the crop is extremely heavy and down badly, take less than a full swath.

THE OPERATOR—Continued

Listen for the warning of clutches slipping. Also listen to tractor engine for any evidence of slowing down caused by cylinder starting to slug, and stop the tractor before the machine has become completely plugged.

Combine should be thoroughly cleaned out before leaving one field and going to the next in order to reduce the spread of noxious weed seeds.

When through cutting in a field, sweep trash and straw off the outside of combine, open doors at bottom of elevators and run machine until all straw trash, and grain are removed from inside of combine before moving to the next field.

The spread of noxious weed seeds will be greatly reduced if all combine operators carefully follow the above instructions.

PROPER PREPARATION OF FIELD FOR COMBINING WILL MEAN LESS TROUBLE AND MORE PROFITABLE OPERATION

In fields where small grain follows corn in the rotation of crops, special care should be taken before seeding to clean up or cover cornstalks and large corn roots. They can be very troublesome should the crop go down.

When a cornstalk or root hooks onto the point of a guard, a great deal of grain is pushed ahead and run down. It is usually necessary to then stop, back up and clean off the cutter bar before going on. Raising the cutter bar to avoid this will mean a loss of some of the beaten down grain.

Another thing, the large corn roots can damage the canvases should they be carried up the platform to the narrow feeder throat.

A little extra work done when preparing the field for the small grain crop will pay big dividends when harvest time rolls around.

THE COMPLETE OBSERVANCE of one simple rule would prevent many thousand serious injuries each year. THAT RULE IS "NEVER ATTEMPT TO CLEAN, OIL OR ADJUST A MACHINE WHILE IT IS IN MOTION."

APPROXIMATE SETTINGS MADE AT FACTORY FOR COMBINING SMALL GRAIN

Cylinder Speed and Spacing Between Concave and Cylinder.

The cylinder and concave spacing is set at $\frac{1}{4}$ -inch at the factory. Suggested changes for different crops and conditions will be found on pages 27 to 32 inclusive.

The cylinder and the separator are driven by separate belts. The speed of the cylinder can be varied without affecting the speed of the balance of the machine. Instructions for varying cylinder speed are found on page 57.

Speed of Separator.

The separator speed can be checked at the left hand end of feeder canvas drive roller. The speed at this point should be 530 to 550 R.P.M. with tractor throttle at fast idle. **Tractor or engine governor should be set so that speed of this roller is 530 to 550 R.P.M.**

Beater Behind Cylinder.

The beater behind the cylinder is set to operate at 650 R.P.M., **with tractor operating at fast idle**. Conditions sometimes make it desirable to change this speed. Full instructions for changing beater speed are found on page 66.

Triangular covers are installed over beater teeth. They prevent wrapping of green material on beater if combine is started in the field before crop is sufficiently ripe. In dry brittle straw conditions it may be advisable to remove the covers to improve separation. See page 68.

Cleaning Fan.

The valves at sides of fan housing are set about two-thirds open and the blast deflector in fan throat is set to throw the blast about one-third of the way back from the front of shoe for proper cleaning. See page 76 for special settings.

Cleaning Chaffer and Sieve.

The adjustable chaffer lips are set about one-half open and adjustable sieve lips about one-third open when combine leaves the factory these are average settings. A good rule to remember is to have lips of chaffer open as wide as possible without admitting too much coarse material and so grain works through the chaffer before it passes over two-thirds of the length of sieves. Close the lips of the adjustable sieve as much as possible without carrying clean grain into tailings return auger.

SEPARATOR SPEED

The cutting, threshing, separating and cleaning units must operate at very near a definite speed at all times to do the fine job that this combine is capable of doing. Extreme high, extreme low or varying speeds all lead to an inferior job of combining.

The speed of the combine can be checked at the left-hand end of the feeder canvas drive roller. **It should operate at 530 to 550 R.P.M. when tractor or engine is operating at fast idle.**

The following sheaves are used on a power driven combine only in place of the regular 7-7/8" separator drive sheave (AP21833H) for certain tractors.

(PK694 H), 8-7/16" Special Separator drive sheave should be used in connection with any tractor having a slow speed take-off shaft. It is furnished with the hookup equipment for the McCormick-Deering Farmall F-20 tractor, which has a power take-off shaft speed of 505 R.P.M.

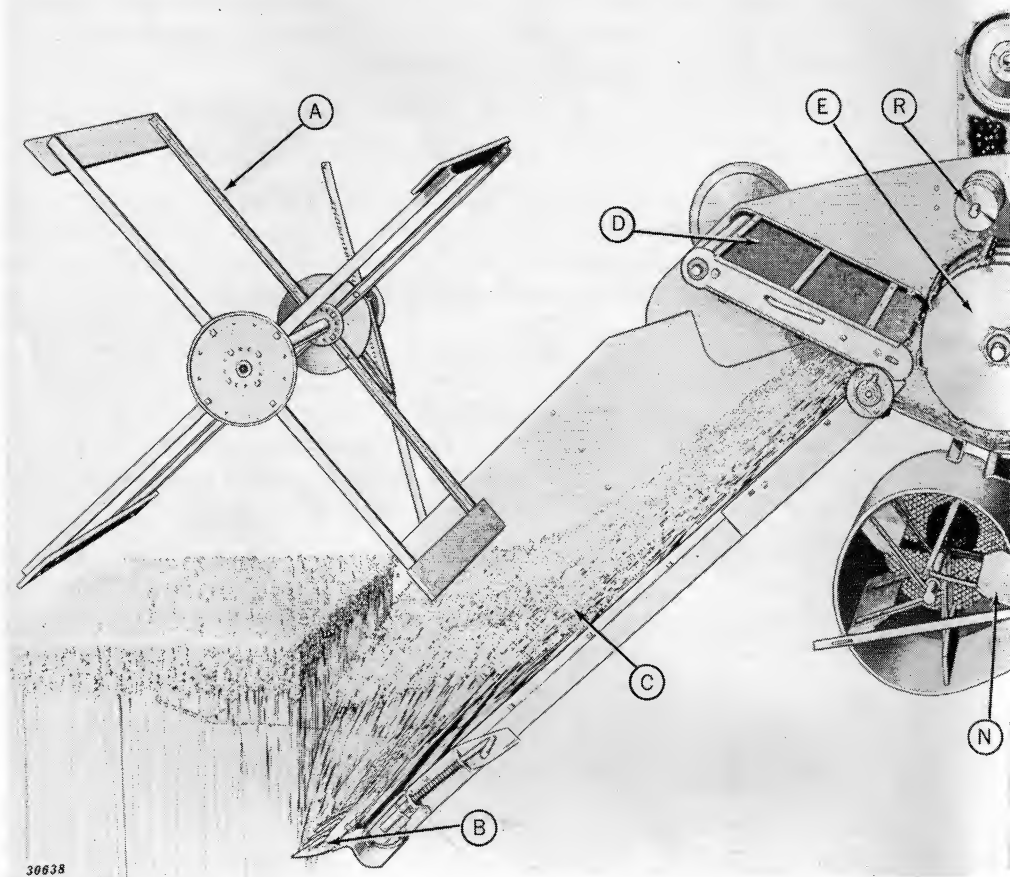
(PK696 H), 6³/₄" Special Separator drive sheave should be used in connection with any tractor having a power take-off shaft speed of around 600 R.P.M. The Minneapolis-Moline Model "Z" which has a 615 R.P.M. power take-off shaft speed is an example. This sheave may also be used on older tractors that are a little short on power. Speed of tractor should be increased so feeder canvas drive roller operates at 530 to 550 R.P.M.

(PK695 H), 9-1/2" Special Separator drive sheave can be used with larger tractors of a power rating of the John Deere Models "D", "G", or "R", where sufficient power is available for throttling the tractor engine to obtain slower ground travel when handling a heavy crop. This sheave should never be used with smaller tractors where throttling down results in an excessive sacrifice of power.

SPEEDS OF VARIOUS UNITS

Gear Case Drive Shaft.....	864 R.P.M.
Platform Canvas Drive Roller.....	466 R.P.M.
Fan Shaft.....	680 R.P.M.
Beater Behind Cylinder Shaft (With no shims between sheave halves).....	650 R.P.M.
Feeder Canvas Drive Roller (Basic).....	540 R.P.M.
Grain Conveyor Drive Shaft (With 3 shims between drive sheave on beater shaft).....	270 R.P.M.
Straw Rack Pitman Drive Shaft (With 3 shims between drive sheave on beater shaft).....	270 R.P.M.
Tailings Elevator Drive Shaft.....	316 R.P.M.
Tailings Distributing Auger.....	316 R.P.M.
Clean Grain Elevator Drive Shaft.....	385 R.P.M.
Clean Grain Auger.....	385 R.P.M.
Grain Tank Horizontal Auger.....	576 R.P.M.
Grain Tank Unloading Auger.....	864 R.P.M.

CROSS-SECTIONAL VIEW OF

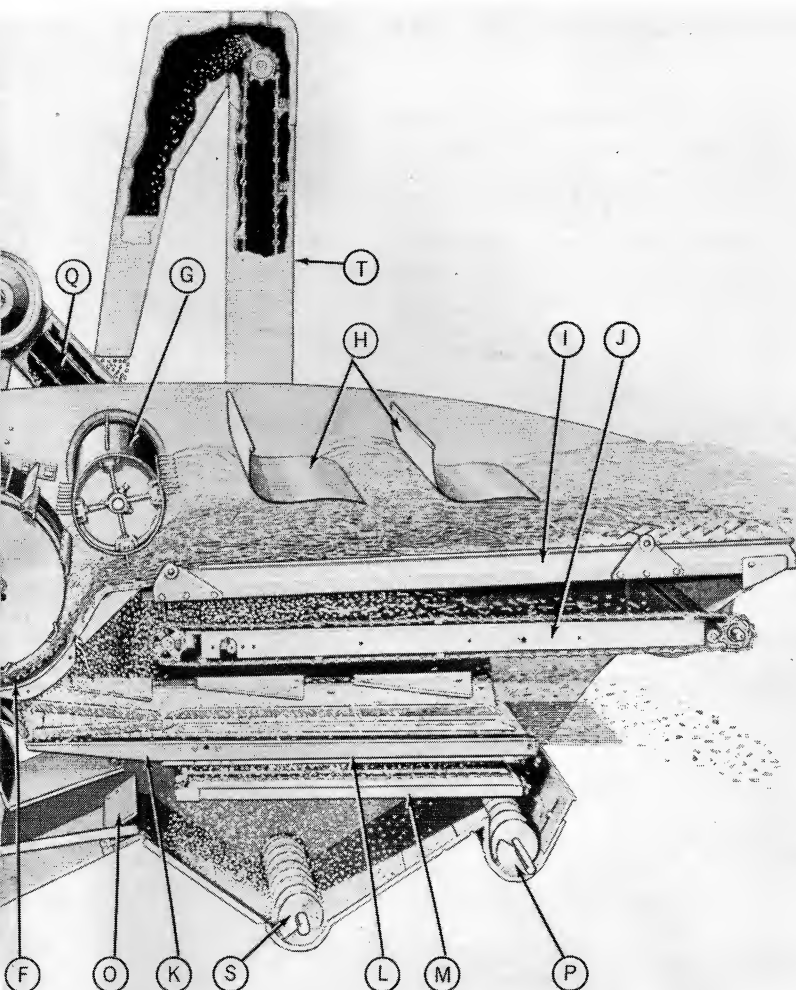


This cutaway view of the John Deere 25 Straight-Through Combine shows how the grain and straw are handled from the cutter bar straight through the machine.

The four-slat, ground-driven reel, "A," divides the grain and holds it to the cutter bar, "B." The cut grain is gently elevated by platform canvas, "C," which, together with feeder canvas, "D," delivers grain in a thin, even stream to the extra-wide, rasp-bar cylinder, "E."

As the grain travels between cylinder, "E," and concave grate, "F," and back against beater behind cylinder, "G," the greater part of the separation takes place. The grain falls through the grate to shoe pan, "H," and is moved back to shoe chaffer—grain is not remixed with straw to overload straw rack. Beater, "G," deflects grain down through the chaffer section at the front end of the straw rack, and passes

JOHN DEERE 25 COMBINE



the straw onto full-width straw rack, "I." Curtains, "H," deflect and retard straw and grain so full length of rack is utilized. During its rearward movement, the remaining grain falls through cells in rack onto grain conveyor, "J," and is delivered back to shoe pan, "K," which moves it to front end of chaffer. Straw is then tossed out on the ground in a wide, even spread.

A blast of air from fan, "N," is directed by windboard "O," against shoe chaffer, "L," and shoe sieve, "M." This blast, with the aid of chaffer and sieve agitation, blows chaff away and moves the tailings to tailings auger, "P." This auger carries them to tailings elevator, "Q," which conveys them to distributing auger, "R," where they are delivered to the center of the cylinder for re-threshing.

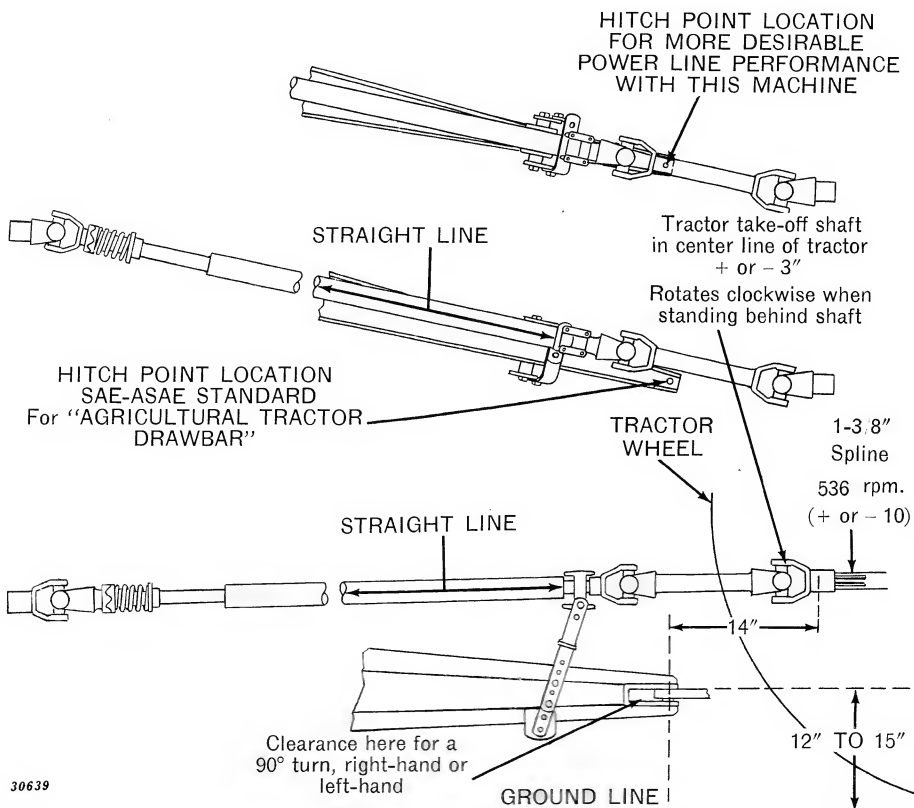
Clean grain, after dropping through shoe chaffer, "L," and shoe sieve, "M," is carried by clean grain auger, "S," to elevator, "T," on opposite side of combine and elevated into grain tank.

HOOKING-UP TO THE TRACTOR

GENERAL

Adjust tractor drawbar on a power-driven combine so it conforms to settings established by A.S.A.E. standards. If the tractor is an older model, upon which such dimensions cannot be obtained, it will be necessary to purchase conversion parts from the **dealer handling your make of tractor**.

Power-driven combines should be hooked up to tractor so there is a straight line from the center line of the universal joint on the tractor to the center line of the universal joint on the gear case. This line should be straight both up and down and sideways.



30639

Tractor Hook-up Chart

The power line of this machine will operate satisfactorily if properly hitched to any tractor conforming to the S.A.E.—A.S.A.E. drawbar and power take-off standards. However a more desirable power line performance can be obtained on sharp turns with this machine, if the hitch point can be moved to the left so that it is directly (or nearly) under the center line of the power line.

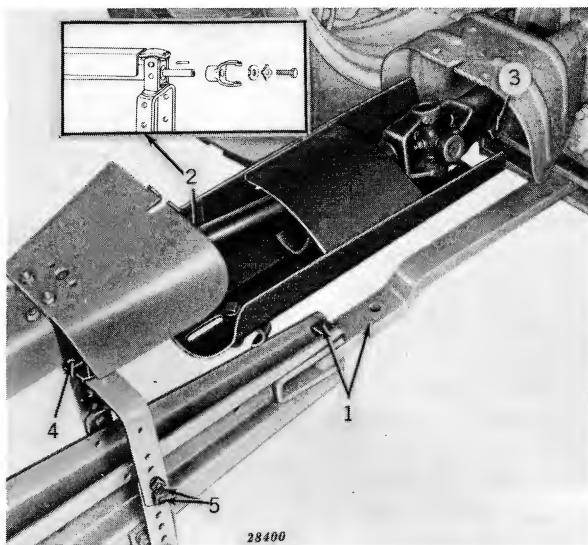
CONNECT COMBINE TO TRACTOR.

1. Lock tractor draw-bar in position. Connect combine to tractor draw-bar.

Power Driven.

2. Remove key, lugged lock washer, and notched retaining washer from front end of telescoping pipe. Attach universal joint to telescoping pipe with key, notched retaining washer lugged lock washer and cap screw. Bend lugs on lock washer to lock cap screw and notched retaining washer.

3. Slide front splined universal joint onto splined shaft on tractor. Tighten clamp bolt.



Hooking Up To Tractor

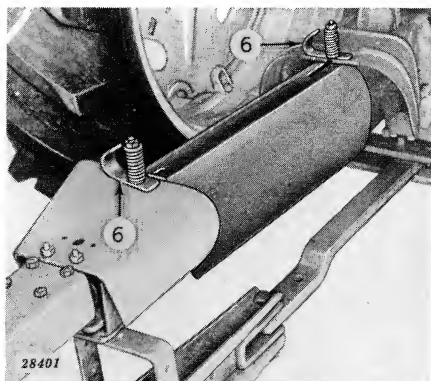
4. Adjust the bearing box sideways so power line runs in a straight line.

5. Adjust the height of the power line up or down so it runs in a straight line. Bearing box "4" may be inverted to provide additional height.

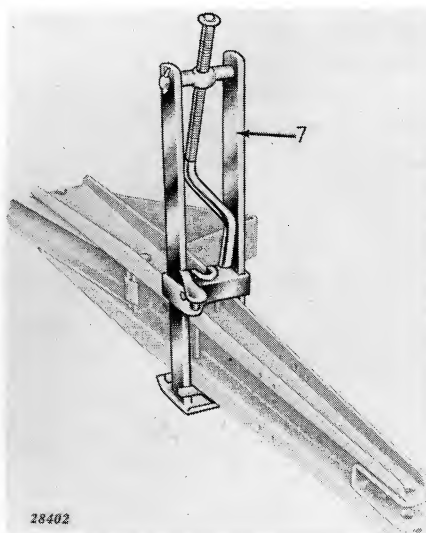
6. Attach connecting shield.

Engine Driven:

7. Raise hitch jack up until it locks in place.



Attaching Shield



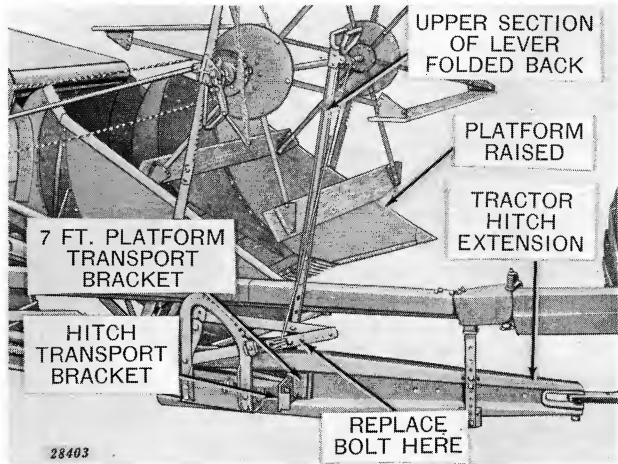
Raising Hitch Jack

TRANSPORT- ING

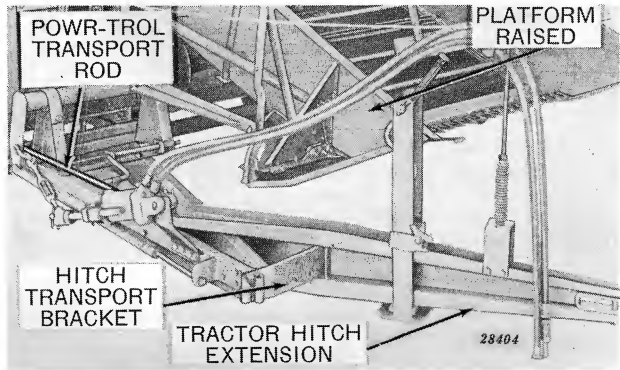
Loosen hand wheel on hub of right-hand main wheel to disengage reel drive sprocket. Remove the center bolt in the tractor hitch extension and swing the combine to the right until hitch extension can be bolted to left-hand side of transport bracket. On combines equipped with a 7-foot platform, hitch extension bolts to small bracket located on the front of hitch transport bracket.

Raise platform to highest position. If combine is equipped with a lifting lever, remove upper bolt through upper and lower sections of lever and fold upper section back, replace bolt in lower section. If combine is equipped with Powr-Trol, hook transport rod to clevis on lifting crank.

On a sacker machine, remove sack chute, front support pipe, rear support pipe and place on operator's platform.



*Power-Take-Off Combine with Hand Lever
In Transport Position*



*Engine-Driven Combine with Powr-Trol
In Transport Position*



*Sack Chute in Transport
Position*

FUNDAMENTALS OF COMBINE HARVESTING

On the following pages are charts which give approximate settings for combining a wide variety of crops. There are any number of other crops that can be handled by this economical, labor-saving and rapid method of harvesting. All that is required to handle these crops is a thorough understanding of the fundamentals of combine operation.

These fundamentals in brief, are:

1. Be sure crop is in condition to thresh—moisture content not too high—straw not too green, etc.

2. See that feeder drive roller is operating at the correct speed. Tractor should be in good condition—governor should be properly set and responsive enough to quickly accelerate should an overload occur.

3. Cut the crop as high as possible without excessive loss of low heads. If the straw is down and tangled it may be desirable to use the special inside loop divider, as well as the outside loop divider in opening up the field. Pickup guards can also be used to advantage in such conditions. Slow travel speed is imperative.

4. Adjust the reel for even feeding, See pages 34 to 36.

5. **Keep the cylinder speed as low as possible and concave clearance as high as possible** to remove grain from head. Some varieties of edible beans which are easily mutilated may require use of special slow speed cylinder drive. Maintain sufficient beater speed to guard against wrapping of straw on beater.

6. Maintain sufficient straw rack speed to insure proper discharge of the straw. **Operate rack at 270 R.P.M. for most conditions, never more than 300 R.P.M.**

7. Regulate chaffer openings to pass the grain or seed to the lower screen before it has passed over two-thirds of the length of chaffer.

8. Close lower adjustable sieve as far as possible without carrying clean grain into the tailings auger.

9. Use as much air as possible without blowing over clean seed. If the grain or seed is unusually light it may be necessary to use a larger fan drive sheave to reduce the volume of air. In heavy seeds use the smaller high-speed sheave.

10. If material loads up on front of chaffer, adjust windboard lever to throw blast to front of shoe.

11. Keep amount of tailings as low as possible.

12. **Select a tractor forward speed that will not overload the combine.**

WINDROW PICKUP METHOD

Windrowing.

Weedy grain and crops that ripen unevenly can usually be handled best by the windrow pickup method.

Green weeds are harder to get through the machine, they break up and get through the sieves into the grain, and also contain moisture which is imparted to the grain.

In some parts of the country, in certain crops, the windrow method of harvesting is indispensable. However, crops are sometimes windrowed that could have been much more economically straight combined. Growers should consider carefully the best method to follow.

The harvest cost with the windrow pickup method is increased somewhat, as the crop must first be windrowed and then picked up with the combine.

In an extremely wet season, it is necessary to turn the windrow with a side delivery rake to allow windrow to dry out. Saving the crop is somewhat more difficult if windrowed than if straight-combined because windrows will not dry out as rapidly as standing grain and cannot be harvested promptly. Even though standing grain may be more susceptible to shattering, harvesting can go on during the time it is necessary to wait for windrows to dry out.

The more times grain is handled, naturally, the greater the loss. Windrowed grain is usually not so dry that shattering is a problem, but if the straw is short and sparse, the stubble does not provide a suitable support for the windrow with the result that straw falls to the ground where some of it cannot be reached with the pickup fingers.

Picking Up.

To pick up a windrow laid with a John Deere 9-foot left-hand windrower or a binder, it is possible to start at the edge of the field and work to the center, thereby taking the grain into cylinder heads first.

The speed of Pickup belts in connection with the forward speed of the combine should be just fast enough to elevate the windrow onto the platform without tearing the windrow apart. If crop is pushed ahead of pickup, belt speed is too slow. Refer to the Belt Speed Chart in the Pickup Operator's Manual.

In conditions where straw is light and fluffy, the work of the pickup attachment can be improved by leaving the reel on the combine and setting it down and back where it can help in delivering material back onto the platform.

Windrowing can be planned to lengthen the harvesting season, thereby increasing the acreage possible to harvest with the combine. It is very desirable to pick up the crop as soon as it is properly cured. Extended delays may result in more difficult handling, higher losses from shattering and entire loss of crop in the event of unfavorable weather.

SUGGESTED SETTINGS FOR COMBINING VARIOUS CROPS

(Actual operation and field conditions will indicate the need for changing settings)

CROP	Cylinder R.P.M.	Cylinder and Con- cave Spacing	Snap on Con- cave Covers	Clean- ing Sieve	Setting of Adjust- able Clean- ing Sieve	Setting of Chaffer	Fan Sheave	Fan Valves	Wind- board Lever	Special equipment that may improve operations.
Alfalfa	1350 to 1500	3/16"- 1/4"	Use 3 to 5	Adjustable or 1/10" round hole	Almost closed	About 1/8 open	11-3/4"	Closed	Rear position	ScourKleen screen — 1/20" round hole.
Barley- Feed and Malting	1000 to 1300	1/4"- 1/2"	If neces- sary	Adjustable	1/3-1/2 open	1/2-2/3 open	9-5/8"	1/2-2/3 open	About center	No choke chaffer extension. Slot- ted auger connection 1/16" x 1" ScourKleen screens. Slotted .165" Triangular .171", .140" or .125".
Beans- Baby Lima	175	1/2"- 3/4"	Not required	Adjustable	Slightly over 1/2 open	2/3 to nearly wide open	7-3/8" or 6-1/16"	Wide open	About center	Slotted auger connections 3/32" x 3/4" or 5/32" x 3/4" ScourKleen screens. Slotted 3/32" x 3/4", 1/8" x 3/4"-5/32" x 3/4" or 11/64" x 3/4".
Beans- Black- Eye	175	3/8"- 1/2"	Not required	Adjustable (preferred) or 9/16" round hole	Slightly over 1/2 open	Nearly wide open	8-11/16"	Wide open	About center	Slotted auger connections 3/32" x 3/4" or 5/32" x 3/4" ScourKleen screen. Slotted 3/32" x 3/4" or 1/8" x 3/4".
Beans- Great Northern	175 or 250	1/2" 5/8"	Not required	Adjustable (preferred) or 9/16" round hole	1/2 open	Nearly wide open	8-11/16" or 7-3/8"	Wide open	About center	Slotted auger connections 3/32" x 3/4" or 5/32" x 3/4" ScourKleen screen. Slotted 5/64" x 1", 1/8" x 3/4", 5/32" x 3/4" or 11/64" x 3/4".
Beans- Kidney	175 or 250	1/2"- 5/8"	Not required	Adjustable (preferred) or 9/16" round hole	1/2 open	Nearly wide open	8-11/16" or 7-3/8"	Wide open	About center	Slotted auger connections 3/32" x 3/4" or 5/32" x 3/4" ScourKleen screen. Slotted 3/32" x 3/4". 1/8" x 3/4", 5/32" x 3/4" or 11/64" x 3/4".

SUGGESTED SETTINGS FOR COMBINING VARIOUS CROPS—Continued

CROP	Cylinder R.P.M.	Cylinder and Con- cave Spac- ing	Snap on Con- cave Covers	Clean- ing Sieve	Setting of Adjust- able Clean- ing Sieve	Setting of Chaffer	Fan Sheave	Fan Valves	Wind- board Lever	Special equipment that may improve operations.
Beans- Navy	175 or 250	1/2"- 5/8"	Not required	Adjustable (preferred) or 9/16" round hole	1/2 open	Nearly wide open	8-11/16" or 7-3/8"	Wide open	About center	Slotted auger connections 5/32" x 3/4" ScourKleen screens. Slotted 3/32" x 3/4"-1/8" x 3/4", 5/32" x 3/4" or 11/64" x 3/4".
Beans- Pinto	175 or 250	1/2"- 5/8"	Not required	Adjustable round hole	1/2 open	Nearly wide open	8-11/16" or 7-3/8"	Wide open	About center	Slotted auger connections 5/32" x 3/4" ScourKleen screens. Slotted 5/32" x 3/4", 11/64" x 3/4" or Round 7/32".
Beans- Soy	650	7/16"- 1/2"	Not required	Adjustable or 9/16" round hole or 3/8" round hole	About 1/2 open	About 2/3 open	9-5/8" or 8-11/16"	Wide open	Center position	Inside Loop Divider. Slotted au- ger connections 1/16" x 1" or 3/32" x 3/4" ScourKleen screens Slotted. 1/8" x 3/4", 3/32" x 3/4", 5/32" x 3/4" or 11/64" x 3/4".
Beans- White Pea	450 to 550	1/4"- 1/2"	Not required	Adjustable round hole	1/2 open	2/3 open	8-11/16" or 7-3/8"	Wide open	About center	Slotted auger connections 3/32" x 3/4", ScourKleen screen Slotted. 3/32" x 3/4", 1/8" x 3/4", 5/32" x 3/4" or 11/64" x 3/4".
Buck Wheat	750 to 900	1/4"- 1/2"	If necessary	Adjustable	1/4-1/3 open	About 2/3 open	9-5/8"	About 1/2 open	About center	ScourKleen screens Triangular holes .125"-.140" or 4-1/2/64".

Clover Alsike	1450 to 1550	3/16"- 1/4"	3 to 5	Adjustable 1/12" round hole	Slightly opened	About 1/4 open	11-3/4"	Closed	Rear position	ScourKleen screen. Round 1/25".
Clover- Big English and Dutch	1500	3/16"- 1/4"	3 to 5	Adjustable or 1/10" round hole	Slightly opened	About 1/4 open	11-3/4"	Closed	Rear position	ScourKleen Screen. Round 1/20".
Clover- Crimson	1450 to 1600	3/16"- 1/4"	3 to 5	Adjustable (preferred) or 1/10" round hole	Slightly opened	About 1/4 open	11-3/4"	Closed	Rear position	ScourKleen screen. Round 1/20".
Clover- Fenu- greek	1050 to 1400	3/16"- 1/4"	3 to 5	Adjustable	Slightly opened	About 3/8 open	11-3/4"	Slightly opened	Rear position	ScourKleen screen. Slotted 5/64" x 1".
Clover- Hop	1440 to 1550	3/16"- 1/4"	3 to 5	Adjustable or 1/12" round hole	Slightly opened	About 1/4 open	11-3/4"	Closed	Rear position	ScourKleen screen. Round 1/20".
Clover- Red	1500 to 1600	3/16"- 1/4"	5	Adjustable or 1/10" round hole	Slightly opened	About 1/4 open	11-3/4"	Closed	Rear position	ScourKleen screen. Round 1/20".
Clover- Sweet	1250 to 1450	3/16"- 3/8"	3 to 5	Adjustable or 1/10" round hole	Slightly opened	About 1/4 open	11-3/4"	Slightly opened	Rear position	ScourKleen screen. Round 1/20".
Clover- Yellow Blossom	1300 to 1450	3/16"- 3/8"	2 to 5	Adjustable or 1/10" round hole	Adjustable or 1/10" round hole	11-3/4"				ScourKleen screen. Round 1/20".
Crotal- aria	1000 to 1150	1/4"	If necessary	Adjustable or 9/64" round hole or 13/64"	About 1/3 open	About 2/3 open	9-5/8"	About 1/2 open	Rear position	Nochoke.chaffer extension or 1/4" mesh cover for tailings fingers- ScourKleen screen. Round 4- 1/2/64" or 1/20".

SUGGESTED SETTINGS FOR COMBINING VARIOUS CROPS—Continued

CROP	Cylinder R.P.M.	Cylinder and Con- cave Spacing	Snap on Con- cave Covers	Clean- ing Sieve	Setting of Adjust- able Clean- ing Sieve	Setting of Chaffer	Fan Sheave	Fan Valves	Wind- board Lever	Special equipment that may improve operations.
Flax	1200 to 1500	3/16"	2 or 3	Adjustable or 5/32" round hole or 13/64" round hole	About 1/3 open	1/3-1/2 open	11-3/4"	Slightly opened	Rear position	No choke chaffer extension or 1/4" mesh cover for tailings fingers- ScourKleen screen. Round 4- 1/2/64" or 1/12" Slotted 3/32" x 3/4"
Grass- Blue	1250 to 1500	3/16"- 3/8"	3 to 5	Adjustable or 9/64" round hole	1/4-1/3 open	1/2-2/3 open	11-3/4"	Closed	Rear position	ScourKleen screen. Round 1/20"
Grass- Brome	1400 to 1600	3/16"	3 to 5	Adjustable round hole	1/4-1/3 open	1/2-2/3 open	11-3/4"	Com- pletely closed	Rear position	ScourKleen screen. Round 4-1/2"
Grass- Canary	1250 to 1350	3/16"	3 to 5	Adjustable	Slightly opened	About 1/2 open	11-3/4"	Com- pletely closed	Rear position	ScourKleen screen. Round 1/20" or 4-1/2/64"
Grass- Carpet	1200 to 1400	3/16"	2 to 4	Adjustable or 1/10" round hole	1/4-1/3 open	1/2-2/3 open	11-3/4"	Almost closed	Rear position	ScourKleen screen. Round 1/20" or 4-1/2/64"
Grass- Crested Wheat	1000 to 1150	3/16"	2 to 4	Adjustable round hole	1/4-1/3 open	1/2-2/3 open	11-3/4"	Almost closed	Rear position	No choke chaffer extension or 1/4" mesh screen cover for tailings fin- gers. ScourKleen screen. Round 4-1/2/64" or 1/20"
Grass- Fescue	1100 to 1300	3/16"- 1/4"	2 to 4	Adjustable or 1/10" round hole	1/4-1/3 open	1/2-2/3 open	11-3/4"	Almost closed	Rear position	ScourKleen screen. Round 4- 1/2/64" or 1/20"
Grass- Johnson	1100 to 1300	3/16"- 1/4"	2 to 4	Adjustable round hole	1/4-1/3 open	1/2-2/3 open	11-3/4"	Almost closed	Rear position	ScourKleen screen. Round 4- 1/2/64" or 1/20"
Grass- Millet	1100 to 1300	3/16"- 1/4"	2 to 5	Adjustable or 9/64" round hole	Slightly opened	About 1/2 open	11-3/4"	Almost closed	Rear position	ScourKleen screen. Round 1/20"

Grass- Orchard	1100 to 1300	3/16"- 1/4"	2 to 5	Adjustable or 1/12" round hole	Slightly opened	About 1/2 open	11-3/4"	Almost closed	Rear position	ScourKleen screen. or 4-1/2/64"	Round 1/20"
Grass- Red-Top	1150 to 1500	3/16"- 1/4"	3 to 5	1/32" x 1/2" Slotted	About 1/4 open	About 1/4 open	11-3/4"	Closed	Rear position	ScourKleen screen. .165" reverse process.	Triangular
Grass- Rhodes	1100 to 1300	3/16"- 1/4"	3 to 5	Adjustable or 9/64" round hole	About 1/4 open	About 1/2 open	11-3/4"	Almost closed	Rear position	ScourKleen screen. .165" reverse process.	Triangular
Grass- Rye	1100 to 1400	3/16"- 1/4"	3 to 5	Adjustable	About 1/4 open	About 1/2 open	11-3/4"	Com- pletely closed	Rear position	ScourKleen screen. 1/2/64" or 1/20".	Round 4-
Les- pedeza	600 to 700	3/16"- 1/4"	If necessary	Adjustable or 9/64" round hole	1/3 open	1/2-2/3 open	11-3/4" or 9-5/8"	Closed if 9-5/8" Fan Sheave is used	Rear position	Runner shoe, for outside divider 1-1/2" spaced guards under-ser- rated sickle-six or eight slat reel- ScourKleen screen. Round 4- 1/2/64" or 1/20".	
Lupine	700	3/8"- 3/4"	Not required	Adjustable	About 1/2 open	About 2/3 open	8-11/16"	Wide open	About center	ScourKleen screens. Slotted 3/32" x 3/4"-1/8" x 3/4".	
Mustard	700	3/8"- 1/2"	2 to 4	Adjustable	1/4-1/3 open	About 2/3 open	11-3/4"	Almost closed	Front position	No choke chaffer extension or 1/4" mesh screen cover for tailrags fin- gers. ScourKleen screen. Round 4-1/2/64" or 1/20".	
Oats	1050 to 1250	3/16"- 3/8"	If necessary	Adjustable	1/3-1/2 open	3/4 open	9-5/8"	2/3-3/4 open	Front position	ScourKleen screen. .165".	Triangular

SUGGESTED SETTINGS FOR COMBINING VARIOUS CROPS—Continued

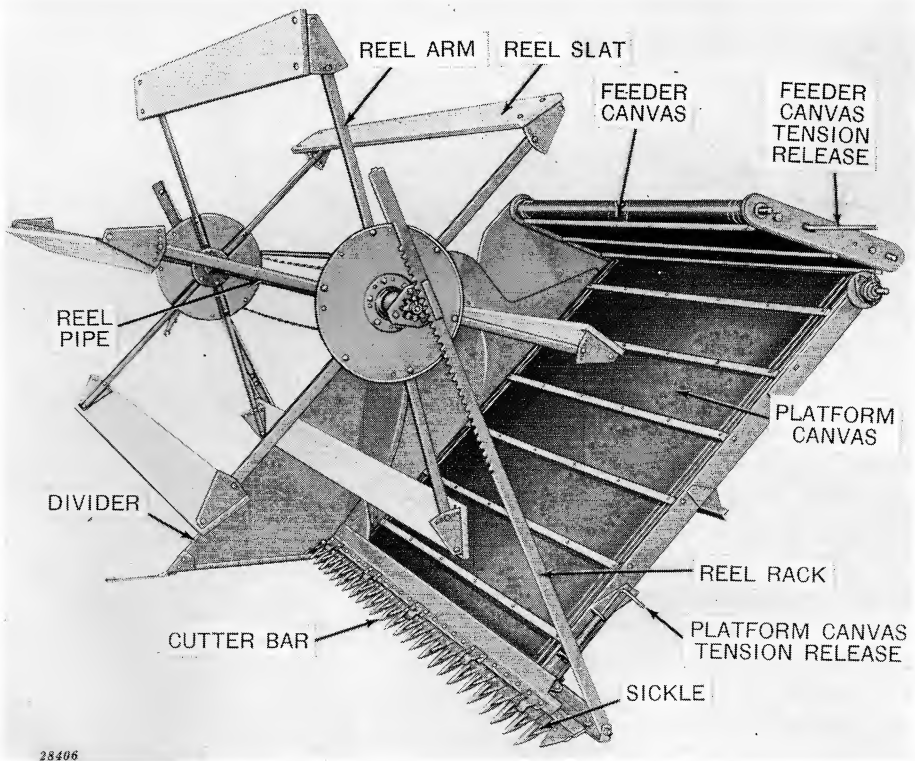
CROP	Cylinder R.P.M.	Cylinder and Con- cave Spacing	Snap on Con- cave Covers	Clean- ing Sieve	Setting of Adjust- able Clean- ing Sieve	Setting of Chaffer	Fan Sheave	Fan Valves	Wind- board Lever	Special equipment that may improve operations.
Peas- Field	250	3/8"- 5/8"	Not required	Adjustable (preferred) or 9/16" round hole	About 1/3 open	About 2/3 open	8-11/16"	2/3 open	About center	Slotted auger connections Scour- Kleen screens. Slotted 3/32" x 3/4" or 5/32" x 3/4" or 1/8" x 3/4"
Peas- Scotch Green	250	3/8"- 1/2"	Not required	Adjustable	About 1/3 open	About 2/3 open	9-5/8" or 8-11/16"	Wide open	About center	Slotted auger connections 3/32" x 3/4" or 5/32" x 3/4" ScourKleen screen. Round 5/32"
Peas- Willets Wonder	250	3/8"- 5/8"	Not required	Adjustable (preferred) or 9/16" round hole	About 1/3 open	About 2/3 open	8-11/16"	Wide open	About center	Slotted auger connections 3/32" x 3/4" or 5/32" x 3/4" ScourKleen screen. Slotted 3/32" x 3/4" or 1/8" x 3/4"
Proso or Hog Millet	900	3/16"	2 to 4	Adjustable or 9/64" round hole	Almost closed	About 1/2 open	11-3/4"	About 1/2 open	Front position	ScourKleen screen. Round 1/20" or 4-1/2/64"
Radish Seed	500 to 700	3/16"	3 to 5	Adjustable or 5/32" round hole	Closed to 1/4 open	1/3-1/2 open	11-3/4"	About 1/2 open	About center	Eight channel bars for cylinder ScourKleen screen. Round 1/2" or 1/20"
Rye	1300	3/16"- 3/8"	If necessary	Adjustable	1/3 open	2/3 open	9-5/8"	1/2-2/3 open	About center	ScourKleen screen. Triangular .165"
Sor- ghums	700 to 825 750 to 875 755 to 925	3/16"- 5/16" 3/16"- 1/4" 3/16"- 1/4"	If necessary	Adjustable	1/4-1/2 open	2/3-3/4 open	8-11/16" or 9-5/8"	Wide open	Rear position	Vertical topping or heading cut- terbar-needed when shock har- vesting six or eight slat reel needed when straight combined ScourKleen screens. Round 4- 1/2/64" or 1/20", 8 channel bars on cylinder.
Timothy	1300 to 1400	3/16"	3 to 5	Adjustable or 1/12" round hole or 1/16" round hole	Slightly opened	About 1/2 open	11-3/4"	Closed	Front position	8 channel bars on cylinder. No choke chaffer extension or 1/4" mesh screen cover for tailings fin- gers ScourKleen screen. Round 1/20" or 4-1/2/64"
Wheat	1000 to 1500	3/16"- 3/8"	If necessary	Adjustable	1/3-1/2 open	2/3 open	9-5/8"	2/3-3/4 open	Front position	ScourKleen screens. Triangular .165", .171", .140" or .125"

ADJUSTMENTS AND SERVICE

Simple and positive adjustments for handling a wide variety of crops under varying conditions have been built into this combine. These adjustments, even though simple, have an important bearing on the quality of the work done.

It is impossible to lay down hard fast rules for any particular crop or condition, because no given combination of combine settings will apply in all cases. The same crop under different conditions may require entirely unrelated adjustments. We can only explain how the adjustments are made and in a brief way tell what a change in the adjustment will accomplish and leave it to the operator to use his best judgment in applying them.

In addition to having the combine adjusted properly, there are cases when some special attachment will help materially in doing a good job. Throughout this portion of the manual, items of special equipment for the different components of the combine are illustrated and described.



Cutting, Elevating and Feeding Units (7-foot Platform)

REEL

The reel slats gather in the straw, hold it until it has been cut by the sickle, then lay it back onto the platform canvas. The reel must be square, level, and at the proper height and position to feed the grain uniformly and steadily to the cylinder.

Reel Adjustments.

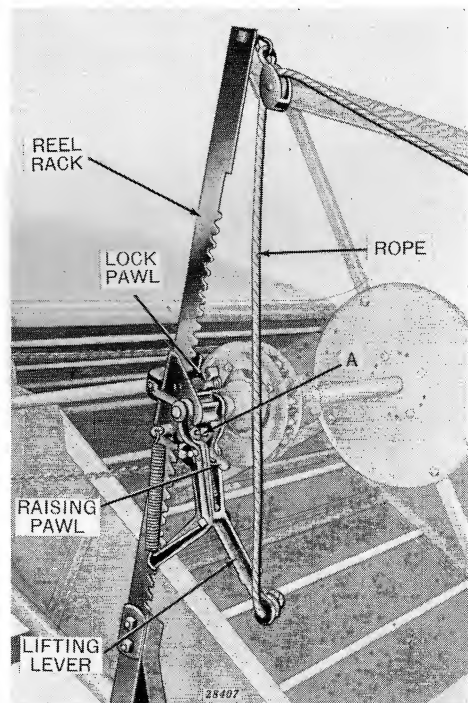
The exact position of the reel depends upon the height of grain, quantity of straw cut and condition of straw. Ordinarily, the reel should be set so the slats, when in their lowest position, will strike the straw 6 to 10 inches above and slightly ahead of the sickle.

In grain that is down and badly tangled the reel should be set low and just above the sickle. In this position, the reel sweeps material back onto the platform canvas. Setting the reel too far back on the platform and too low can interfere with uniform elevation and feeding of material to the cylinder and will sometimes cause straw to be carried around by the reel.

Reel Height Adjustment.

Raising the Reel. Operate the lifting lever with the rope. Each stroke of the lever raises the reel two notches on the rack. The set screw "A" can be adjusted to maintain this range of movement. When the lifting lever is properly adjusted, the raising pawl catches every other tooth on the raising gear.

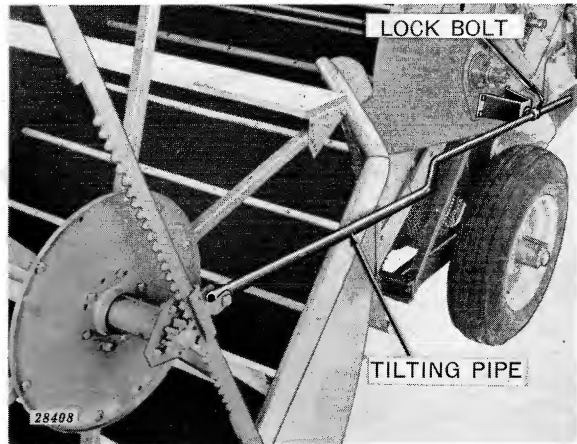
Lowering the Reel. Raise the lifting lever with the rope as far as the lever will go. The lever will force the lock pawl away from the raising gear, allowing the reel to run down the rack. Additional tension on the rope causes the lock pawl to exert pressure on the brake shoe, preventing the reel from lowering too fast. When the rope is released, the lock pawl automatically drops into position in the raising gear and stops the downward motion of the reel.



Reel Height Adjustment

The reel can be lowered by hand by releasing the raising pawl and raising the lifting lever until the lock pawl is released from the raising gear; allowing the reel to slide down the racks.

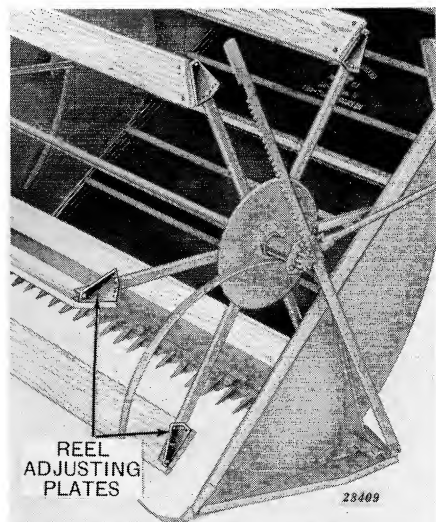
Forward and Backward Adjustment. To move the reel forward or backward, loosen the lock bolts in the tilting pipe supports and move the reel to the desired position. Then tighten the lock bolts. Whenever moving the reel, be sure that it is square when the adjustment is completed. When the reel is square, the racks line up with each other.



*Forward and Backward Adjustment
of Reel*

Leveling the Reel. The reel must be level for it to feed the grain uniformly to the sickle and platform canvas. If the reel is not level, raise it to the top of the reel racks. This will automatically level the reel and the reel height then can be set at the desired location.

Slat Position (7-foot Reels only). The reel slats on the 7-foot reel are fastened to the reel arms with adjusting plates. The pitch of the reel slats can be adjusted so the inner edge of the slat is away from the reel arm. This aids in placing the heads of the grain on the platform canvas, especially in windy conditions.



*Reel Slat Adjustment—
7-foot Platform Only*

Reel Speeds. The reel is ground driven from the right-hand wheel. Ordinarily, varying the reel speed with the ground speed enables the reel to handle the crop being combined. However, when traveling at high speed it is often necessary to slow down the reel. A special 12-tooth sprocket (Part No. PK2H) is available for slowing down the reel. The sprocket fits on the right-hand end of the reel jackshaft through the grain tank or sacker platform. Slowing down the reel prevents rough handling of the standing grain and prevents straw from being carried over the top of the reel.

In a heavy crop when ground travel is too slow to allow reel to lay grain back on the platform rapidly enough, a faster reel speed is necessary. For these conditions, obtain the 7-tooth special sprocket (Part No. P2943H).

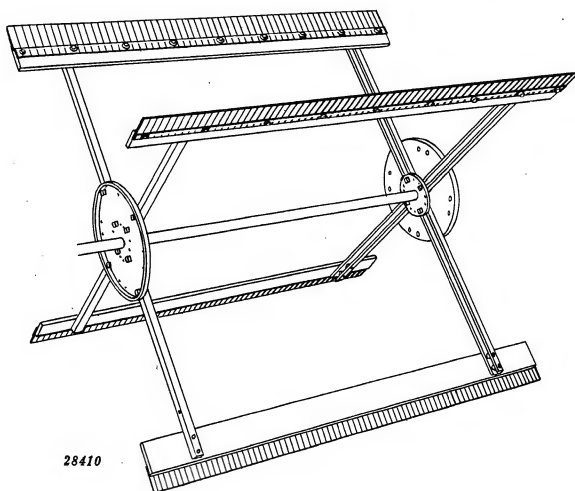
Reel Operating Suggestions. If the reel raising parts tend to bind on the reel racks, lubricate the racks liberally and be sure all paint and dirt is removed from the racks.

Replace any broken reel slats promptly. A missing slat will cause uneven delivery to the platform canvas and uneven feeding to the cylinder.

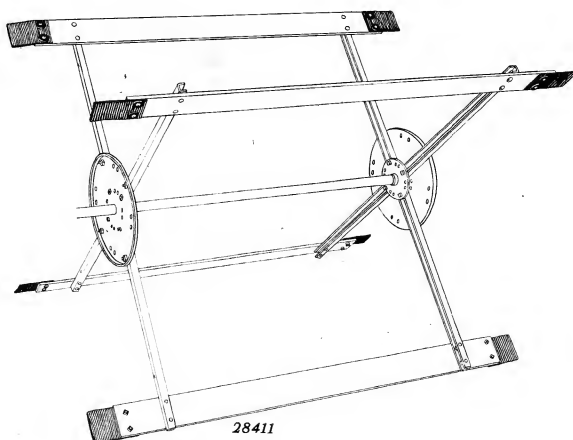
Extremely Short Grain. Canvas or rubber belting can be tacked or bolted to the outer edge of the reel slats to sweep extremely short straw back onto the platform.

Extremely Tall Crops. The use of only two reel slats when combining extremely tall standing crops prevents the grain from being pushed down in the front of the combine.

Down and Tangled Straw. Belting tacked or bolted to ends of reel slats, will keep dividers swept clean of down and tangled straw.



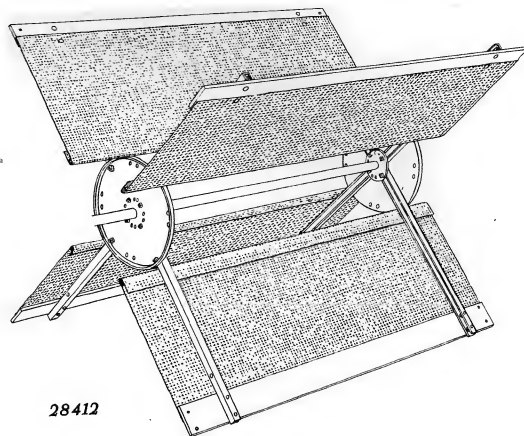
Rubber Belting on Edge of Reel Slats



Rubber Belting on Ends of Reel Slats

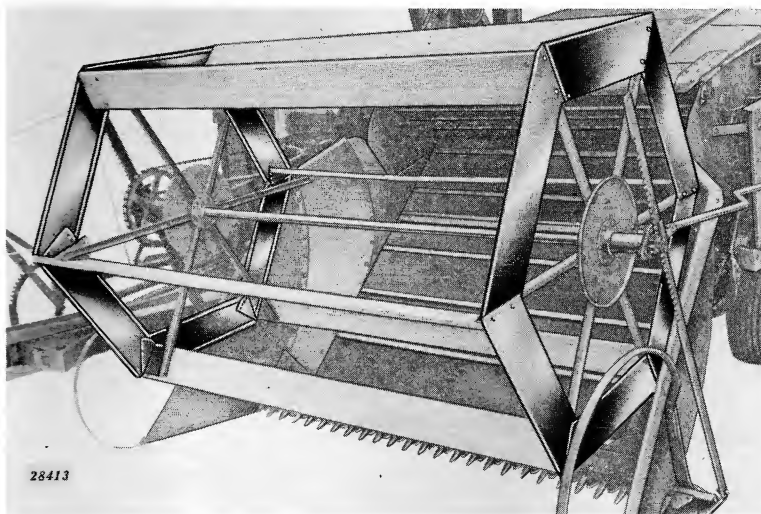
Crooknecked or Nodding Varieties of Maize. Losses can occur at the reel when harvesting crooknecked or nodding varieties of grain due to the heads hanging on the reel slats and being thrown to the ground in front of the platform. Such losses may be decreased by using additional reel slats. Wire screen or canvas can be used to increase the width of the reel slats.

NOTE: The special belting and canvas parts should be made locally. They cannot be supplied by the factory or the branch house.



Canvas or Wire Mesh Screen on Reel Slats and Arms

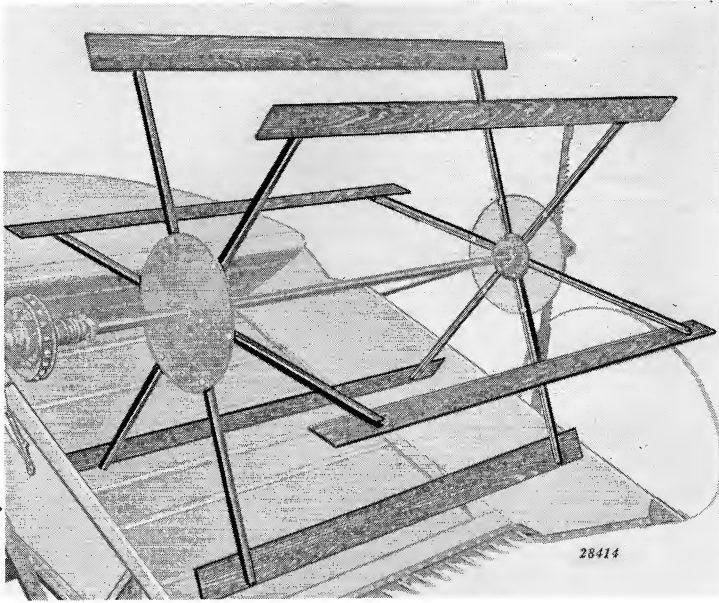
REEL SPECIAL EQUIPMENT



Reel End Shields, 7-Foot Reel Only

Reel End Shields:

End shields are available for use on 7-foot reels to reduce the possibility of straw winding and being carried around by the reel. Package number 14954HH contains the end shields required for the left-hand end of the reel. To install end shields on the right-hand end of the reel, the reel end shields (package number 14954HH) and mounting brackets for the right-hand end (package number 14955HH) are required.

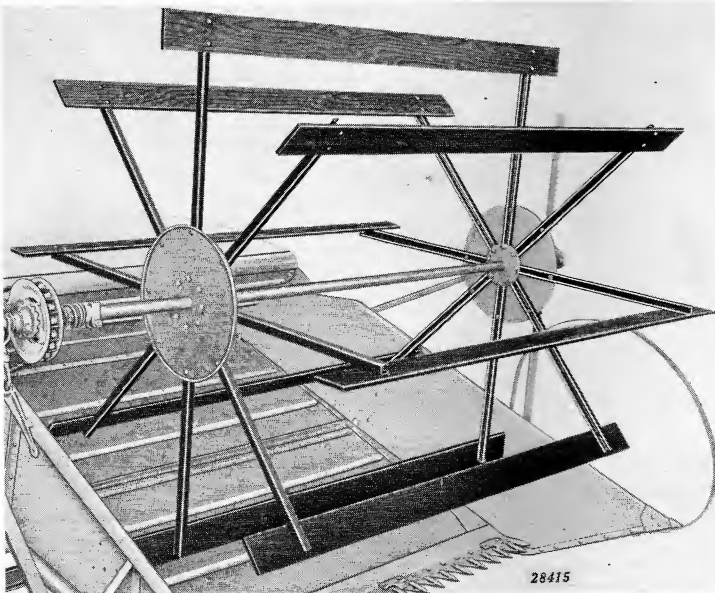


6-Slat Reel

6- and 8-Slat Reel Attachment. (6-foot platforms only).

In extremely short straw, a 6- or 8-slat reel will provide a steadier, more uniform flow of grain to the cylinder than the regular four slat reel. The four slat reel can be converted into a 6- or 8-slat reel as shown. The reinforcing plates or spiders for the reel arms have holes to accommodate 2, 3, 4, 6, or 8 slats.

Extra reel arms and slats are available in package number 14969HH. Order one package for a 6-slat reel or two packages for an 8-slat reel.

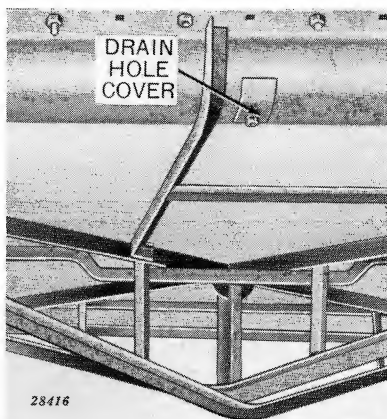


8-Slat Reel

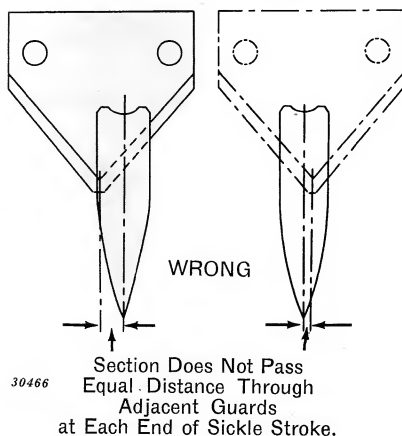
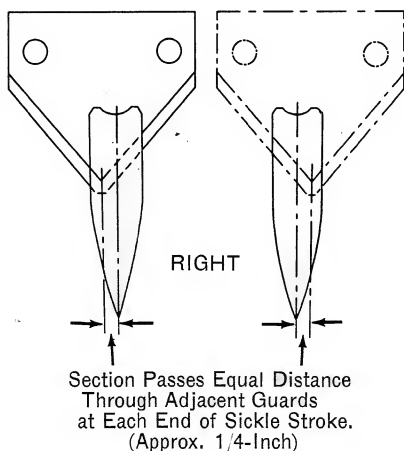
CUTTER BAR AND DIVIDERS

CARE OF CUTTER BAR.

Drain Hole. The bottom of the cutter bar has a small hole so water can be drained from the platform if the combine is left out in a rain. Remove the plate over the hole to drain out the water.



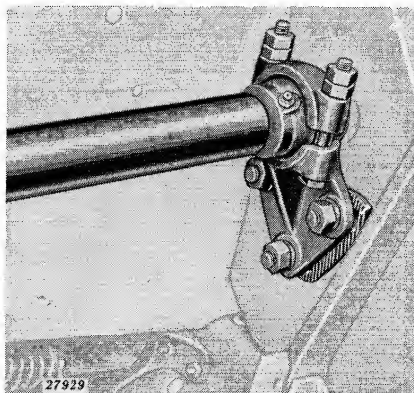
Cutter Bar Drain Hole



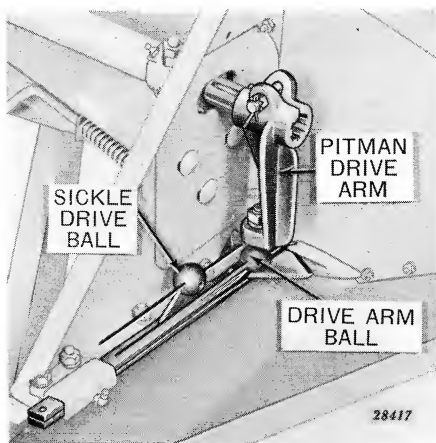
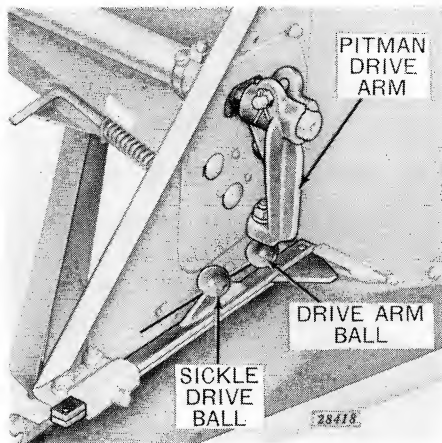
Proper and Improper Register

Sickle Register. Sickle register is important for good cutting. When the sickle is in proper register the sections pass $\frac{1}{4}$ -inch, or an equal distance, through adjacent guards at each end of the pitman stroke. Otherwise the cut is incomplete on one stroke and excessive on the other, resulting in a poor job of cutting and frequent clogging of the sickle.

Register Adjustment. Loosen the clamp bolts and move the bearing support bracket to the right or left as necessary. Tighten the clamp bolts securely once proper register is obtained.

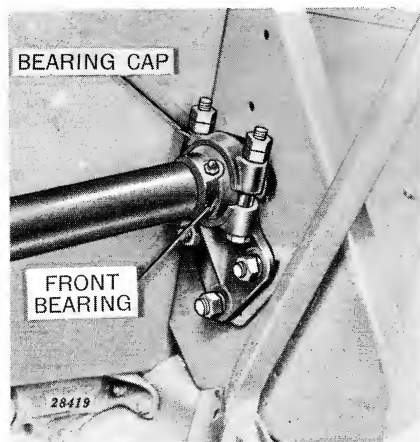


Register Adjustment

*Drive Balls Misaligned**Drive Balls Aligned*

Sickle and Pitman Drive Arm Ball Alignment. The balls on the sickle and the pitman drive arm must be in alignment. If they are not, vibration will result, causing wear on the sickle and sickle drive parts. Move the drive arm in or out on the pitman drive pipe until the balls are in line.

Keep the ball socket clamp bolt snug, but not too tight. If too tight, the parts will bind; if loose, there will be excessive wear and breakage of parts.

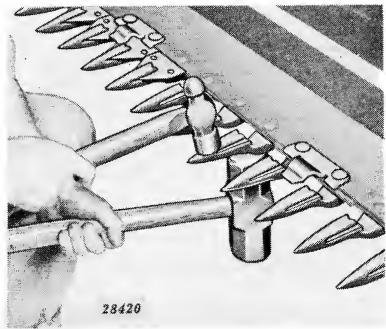
*Pitman Drive Pipe Front Bearing*

Pitman Drive Pipe Front Bearing. The front bearing is a self-aligning bearing. The cap for the bearing should be snug but not tight. The cap must set straight to prevent vibration and still permit the bearing to align itself when the sickle register is adjusted.

Sickle Lubrication. The amount of lubricant to use on a sickle depends on the conditions in which the work is being done. When the grain is being topped and the cutter bar is carried some distance from the ground, liberal lubrication with engine oil is permissible. In many conditions where the cutter bar must operate close to the ground it is better not to use oil except for a small amount on the sickle holders.

CUTTER BAR REPAIR.

The sickle should move smoothly in the cutterbar and every sickle section should rest smoothly on the guard plate in position to make a shear cut. This means the guards, guard plates, wearing plates, and sickle holders must be in good condition and correctly set. If these parts become loose or worn the sickle will flop around in the cutterbar, chewing and tearing the crop instead of cutting it.



Setting Guards Down

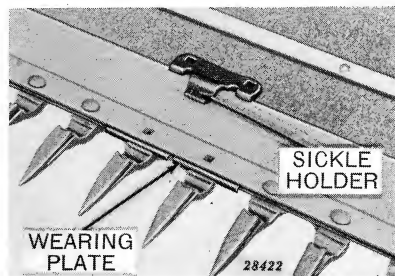
Guard Alignment. Set each guard up or down to obtain a shear cut between the sickle section and the guard plate. Bolt the guards tight and strike them at the thick part just in front of the guard plates. Do not pound down the guard lips as the sickle might bind. Retighten the bolt as each guard is aligned.



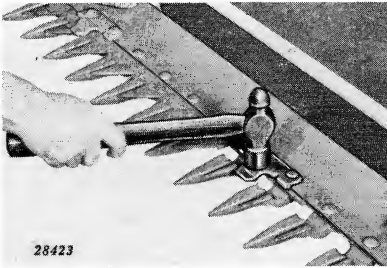
Setting Guards Up

Disregard the position of the guard points—the guard plates must be in line. However, the guard points should be kept sharp. Guard plates should be replaced when worn or dull and the guards aligned to give a shear cut on every plate.

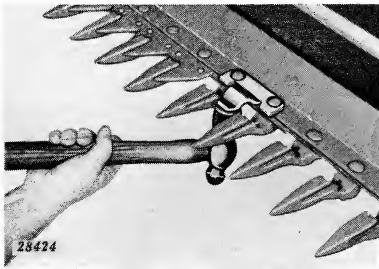
Wearing Plates. Adjust or replace wearing plates to take up wear on sickle back and to reduce play of sickle and guards. However, do not move the sickle so far forward that the sections strike the guards. Turned down edges of wearing plates must line up with each other to give the sickle back a straight bearing along its entire length.



Wearing Plate



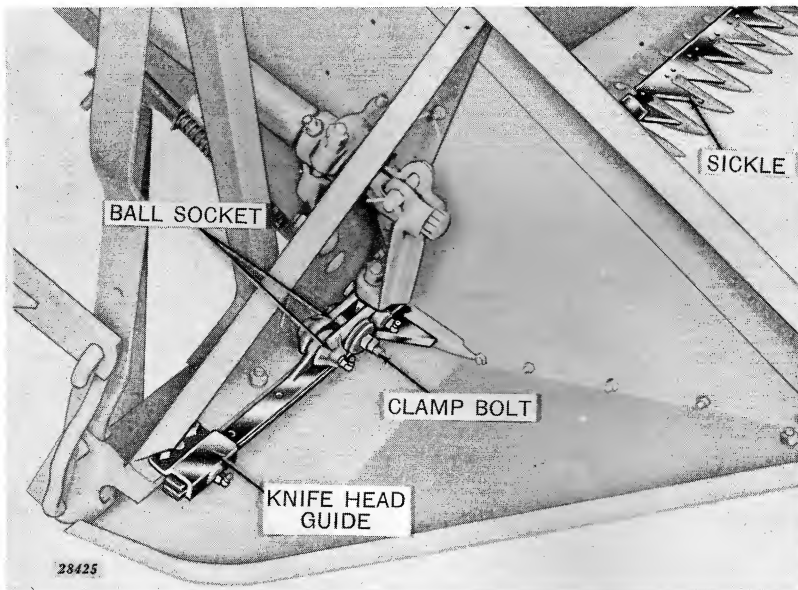
Setting Sickle Holder Down



Setting Sickle Holder Up

Sickle Holders. Sickle holder must hold sections down against guard plates but must permit sickle to slide under it without binding. Set the sickle holders after the guards are aligned. Never bend down a sickle holder when the sickle is under it. Tap the holder up or down until the sickle will just slide under them without binding.

If holder is too tight strike it between the bolts. After setting the sickle holders, oil the guard plates and make sure the sickle works freely.



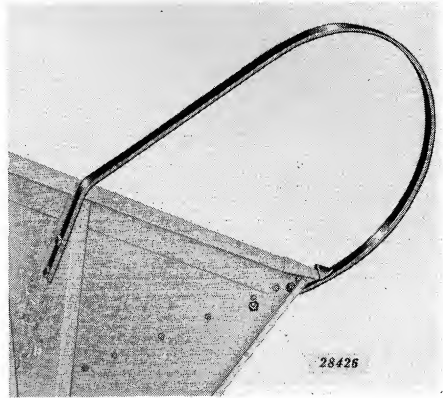
Sickle Removal

Sickle Removal. The sickle can be taken out of the cutterbar by removing the knife head guide, disconnecting ball clamps from the knife heads and pulling the sickle out under the hitch.

CUTTER BAR AND DIVIDER SPECIAL EQUIPMENT

Right-Hand Loop Divider.

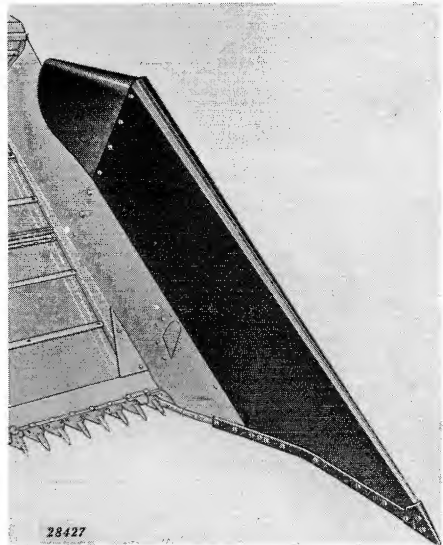
Proper use of the reel will help dispose of down tangled straw on the dividers. However, loop dividers are the most efficient remedy. A left-hand loop divider is regular equipment. This divider rides over down grain, enabling the knife to cut a smooth swath and prevent grain from lodging on the divider. The right-hand loop divider, which is available as special equipment, is valuable when opening a field, especially in soybeans. Obtain package AP22046H from your John Deere Dealer.



Right Hand Loop Divider

High Left-Hand Divider.

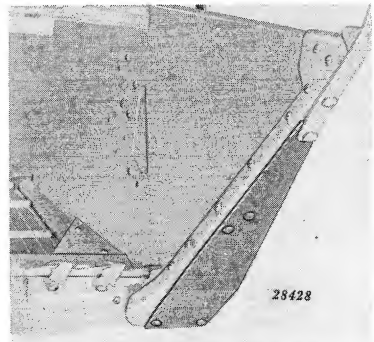
An extra high and long extension is available for the platform left-hand side. This high left-hand divider prevents badly down and tangled grain from riding up the platform sides and accumulating at the upper end to eventually go into the cylinder in a wad. Order from your dealer package No. 10945HH-6-foot Platform or package No. 15022HH-7-foot Platform.



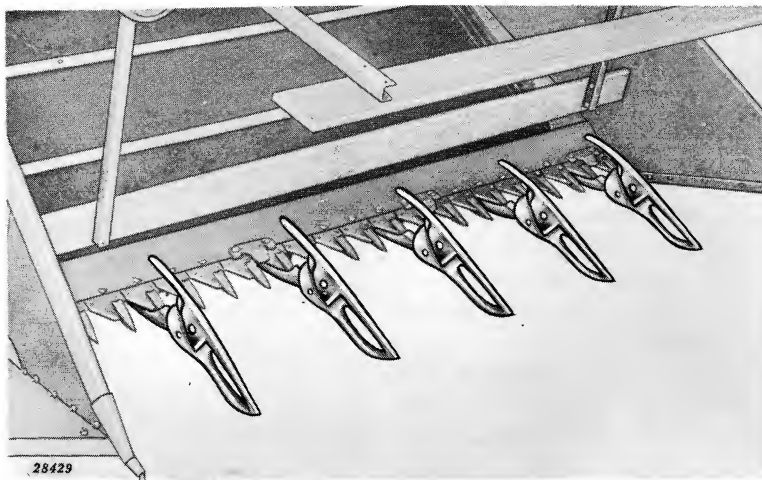
*High Left-Hand Divider
on 6-Foot Platform*

Left-Hand Runner Sub-Sole.

The left-hand runner bottom is subjected to considerable wear when cutting low on abrasive soils and in crops such as lespedeza. The runner sub-sole (10666HH) can be installed on the left-hand runner bottom to protect it from wear.



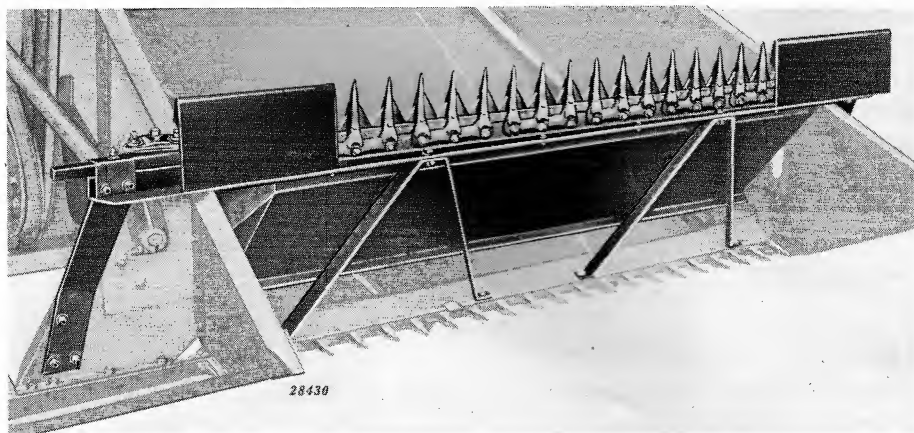
Left-hand Runner Sub-Sole



Lifting Guards

LIFTING GUARDS.

In a badly down or tangled crop, lifting or pickup guards help lift the crop up onto the platform canvas. Five AP15006H lifting guards are used on the 6-foot platform and six on the 7-foot platform.



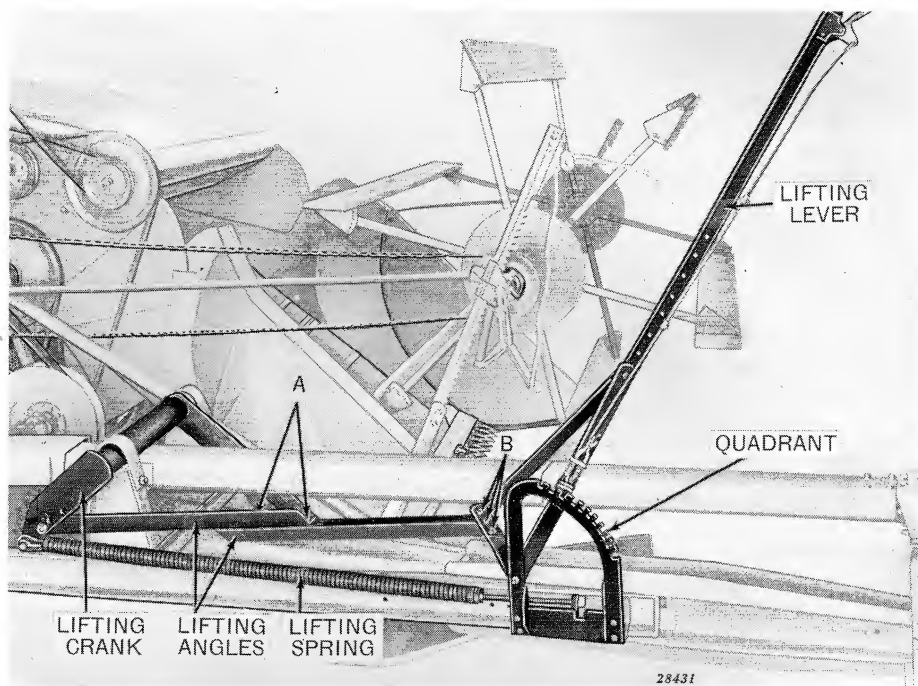
Kaffir Corn Attachment

KAFFIR CORN ATTACHMENT (6-FOOT PLATFORM ONLY).

The kaffir corn attachment is an auxiliary cutter bar designed especially for handling kaffir corn. Complete instructions for the installation and use of this attachment are shipped with it. Order package No. 11286HH.

PLATFORM LIFTING MECHANISM

The platform has a cutting range from 1½ to 40 inches high. The cutting height is regulated by means of a hand lever, or by Powr-Trol.



Hand Lifting Lever

HAND LEVER ADJUSTMENTS.

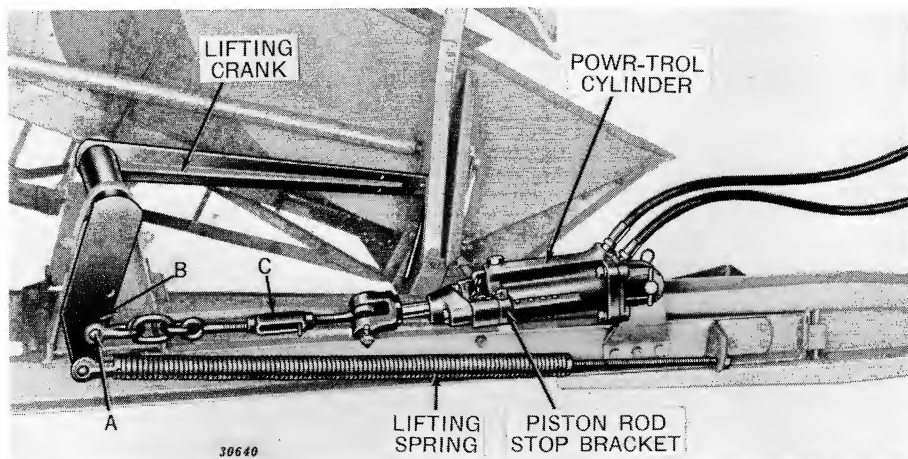
The hand lever is adjustable for length, height, position, ease of operation, and cutting range. The following procedure is a systematic way of adjusting the hand lever for the most convenient operation.

With platform in lowest position required, adjust angles at "A" to set lever as high as possible on quadrant and still within easy reach from tractor seat.

For ease of operation, attach angle in lower hole at "C" except in rare cases where additional platform range is required.

Adjust the tension on the lifting spring so the platform is easy to raise.

POWR-TROL.



Powr-Trol Lifting Mechanism

Operation.

A double-acting hydraulic cylinder is necessary when operating combine.

After Powr-Trol cylinder has been installed on the combine, the platform is raised with Powr-Trol lever on tractor in "raise" position. If platform does not raise, reverse the hoses at the Valve housing on the tractor.

Replace hoses on tractor in normal location when unhooking combine.

Adjustments.

Adjust the piston rod stop bracket for maximum stroke of the piston. This will give the widest range of cutting height.

Adjust the tension of the lifting spring so the platform will just drop of its own weight.

For most conditions the linkage between the Powr-Trol cylinder and the lifting arm is connected to the lifting arm as shown at "A". If you desire to cut higher than is possible with this setting, connect the linkage to the second hole "B". For maximum cutting height shorten linkage by adjusting turnbuckle "C".

PLATFORM AND CANVAS

OPERATING SUGGESTIONS.

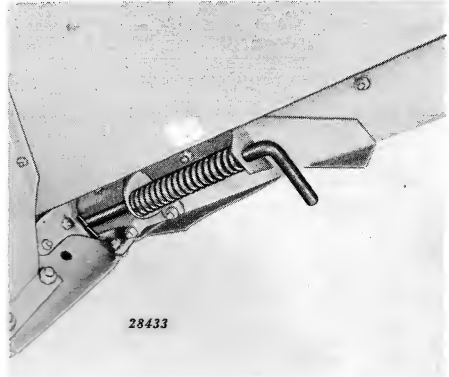
The canvas must be kept up to speed to insure prompt and uniform movement of material from cutter bar to cylinder. Sheaves and V-belts should be checked for slippage.

Tension on the platform canvas is maintained by springs at both ends of the tightener roller at lower end of platform. Handy tension release levers are provided on both sides of the platform. Tension is released by pulling the tension rods to the rear and hooking them over the triangular brackets. Tension on the canvases should be released when the combine is not being used.

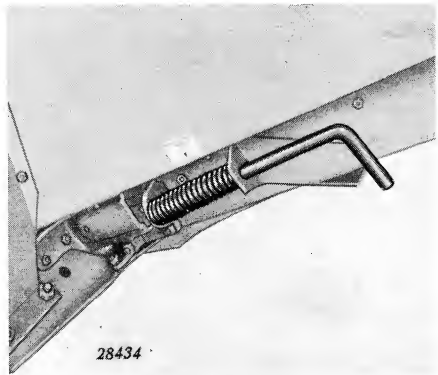
Should material wrap around the platform lower roller, clean it out promptly. The canvas will be forced into the shield over the cutter bar and slats may be torn off if the material is allowed to accumulate.

If this accumulation of material occurs on one end of the roller and not on the other it will cause the canvas to run crooked, and result in stretching of canvas and also slats rubbing on side sheets.

When shortening canvas, make sure it is shortened evenly the entire width. Should accumulation become aggravating, belting can be riveted to the edges of the platform canvas. The belting rubs on the platform sides just above the canvas guides and shields any openings that might exist. However, this is an emergency measure and should only be done where entrance of material persists.



Canvas Tension Engaged



Canvas Tension Released

CARE OF CANVAS.

The canvases on the John Deere 25 Combine are made of high grade rubberized canvas. They will give good service if given proper care. Subjecting them to abuses will naturally shorten their life. Heavy weeds, brush, corn-stalks, etc., mixed with the crop causes premature wear and punctures. If the combine is operating under such conditions install platform and feeder canvas backup tables (see page 52). These backup tables will prolong the life of both the platform and feeder canvases.

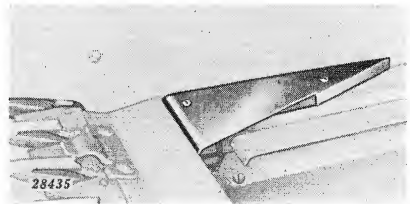
Running the combine with the canvas slipping will damage the canvas and the rubber covering on the drive roller.

Remove any dents in the platform bottom that cause canvas slats to rub on bottom sheave rather than on the rub irons.

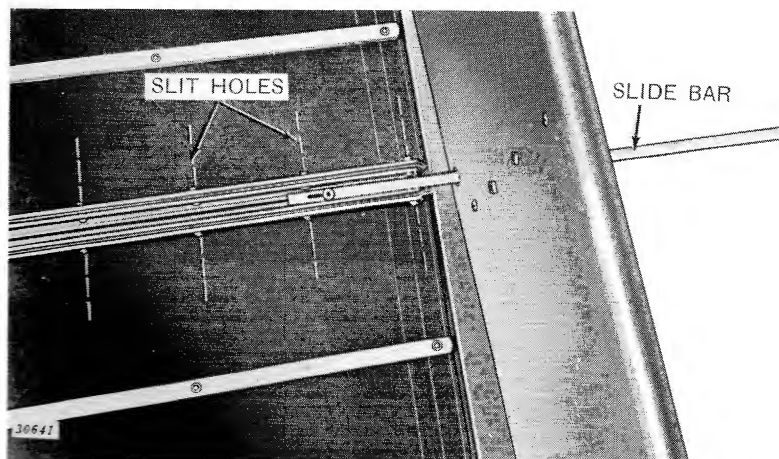
Canvases should be repaired at once if they become frayed or torn. Damaged or lost slats should be replaced at once to insure even feeding to the cylinder.

Be sure the belting grain seal between front extension for concave grate and platform bottom is not doubled over. It should lay flat on the upper end of the platform bottom.

If the triangular corner shields at the lower corners of the platform are not in place, there may be a tendency for tough material to get under the platform canvas and wrap on the lower roller.



Corner Shield
(Illustrated on 6-foot Platform)



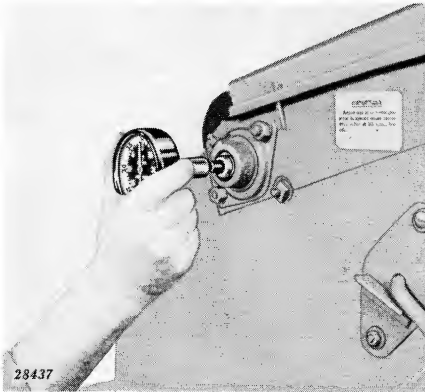
Shortening the Canvas

SHORTENING THE CANVAS.

Should the canvas stretch to the point where the spring tighteners on the lower roller no longer hold the canvas tight, it can be shortened, removing the slide bar which holds the two ends together. Unbolt the clamp strips that hold the canvas to the connecting hooks. Slit the holes in the canvas for the stove bolts. Pull the ends evenly through the clamp strips and tighten the stove bolts. Shorten both ends of the canvas an equal amount.



FEEDER CANVAS

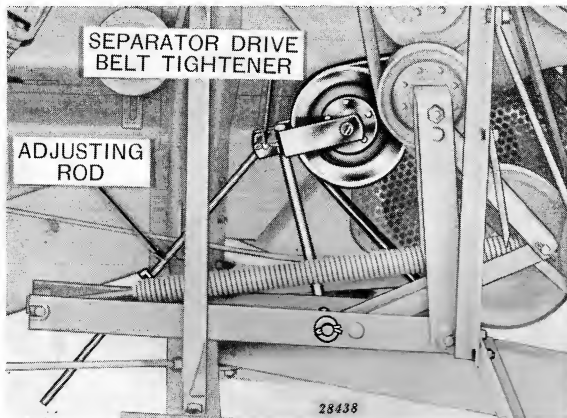


Checking Basic Combine Speed

BASIC SPEED OF COMBINE.

The combine speed is checked at the feeder canvas drive roller. The roller should turn at 530 to 550 R.P.M. when the tractor or combine engine throttle is set at fast idle. Adjust the engine governor to operate the roller at that speed.

SEPARATOR DRIVE BELT TIGHTENER.

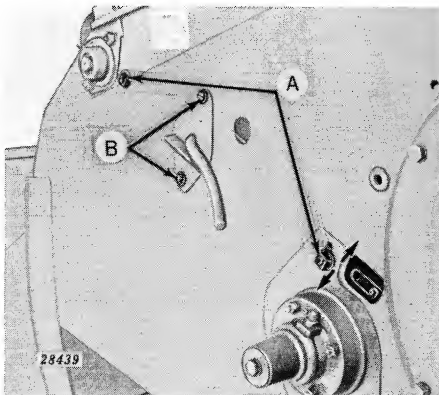


Separator Drive Belt Tightener

The separator drive belt tightener is mounted on the frame of the cylinder drive belt tightener, on the right-hand side of the separator. The tension on the drive belt is adjusted by means of two nuts on the adjusting rod. Keep the belt just tight enough so it does not slip.

FEEDER THROAT ADJUSTMENT.

The throat between the platform and feeder canvases is adjustable by moving the feeder canvas frame. Loosen the bolts through the feeder canvas frame "A" and canvas tightener lever plate "B". Move the lower end of the feeder up or down and tighten the bolts. In light crops, narrow the throat opening and in extremely heavy crops widen it. Keep the feeder throat as narrow as possible in all conditions. However, the feeder should not be lowered to the point where the feeder canvas slats strike the platform canvas slats. Be sure to keep the throat adjusting bolts tight.



Feeder Throat Adjustment

FEEDER CANVAS TENSION ADJUSTMENT.

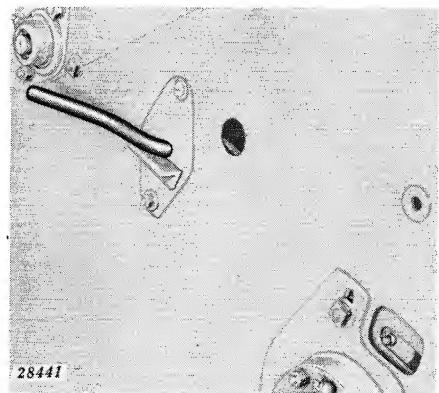
Tension on the feeder canvas is maintained by springs at both ends of the lower roller. The tension is applied or released by flipping the release lever up or down. Whenever the combine is not being operated the tension on the feeder canvas should be released.



Feeder Canvas Tension Engaged

CARE OF FEEDER CANVAS.

The feeder canvas generally requires the same care as the platform canvas as described on page 48.



Feeder Canvas Tension Released

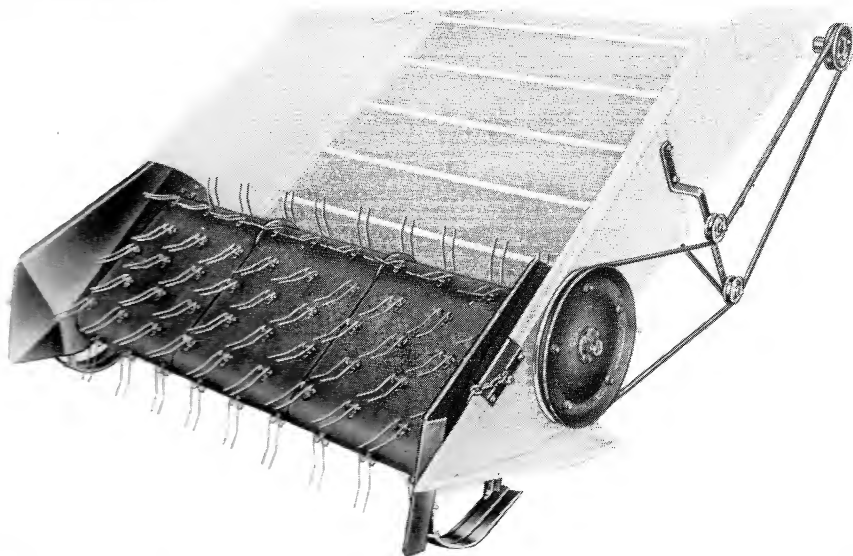
SPECIAL EQUIPMENT—PLATFORM AND FEEDER

TABLE ATTACHMENT.



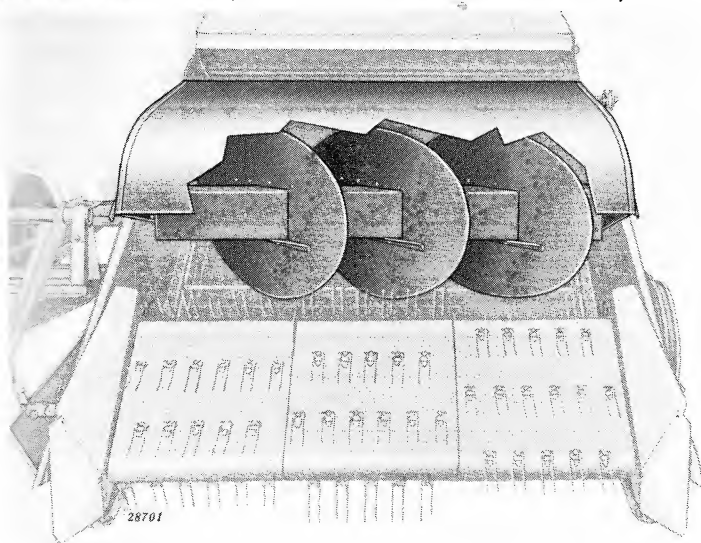
Platform and Feeder Table Attachment

The backup tables for the platform and feeder canvases act as a backing plate to protect the canvases from premature wear and punctures when working in fields containing heavy weeds, brush, and cornstalks. The table attachment will prolong the life of the canvases considerably when working in these conditions. This attachment is available as package No. 11632HH.

BELT PICKUP.

Belt Pickup Mounted on a 6-Foot Platform

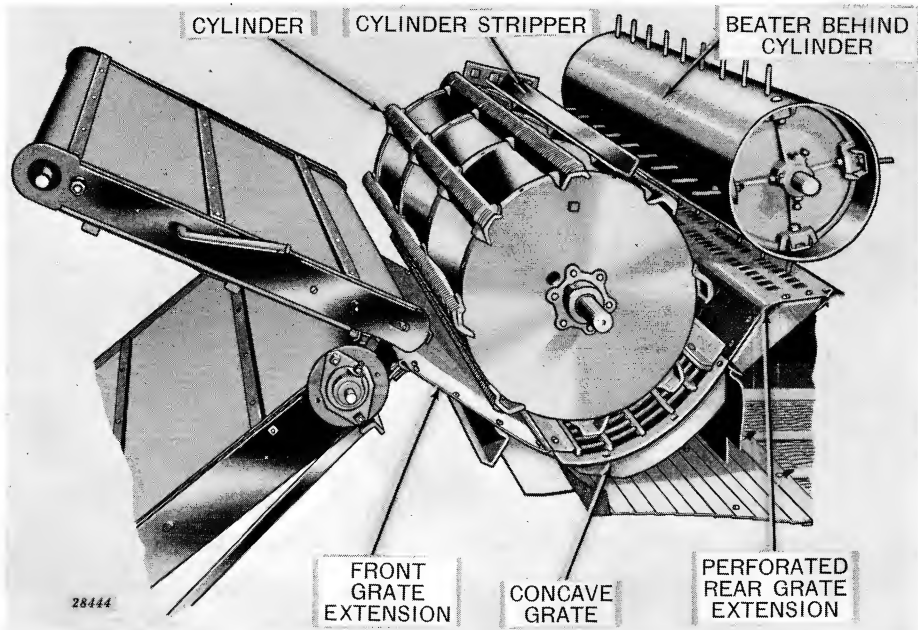
The belt pickup attachment is available for use where the windrow pickup method of harvesting is followed. It is quickly and easily attached to the combine. Complete instructions for its use are furnished with the pickup.

WINDROW SPREADER (6-FOOT PLATFORMS ONLY).

Windrow Spreader Mounted on a 6-Foot Platform

The windrow spreader is used with the belt pickup when harvesting windrowed crops. The spreader distributes the windrow evenly over the platform for uniform feeding the entire width of the cylinder.

CYLINDER AND CONCAVE GRATE



Threshing Units

The cylinder threshes the grain from the heads by the rubbing action of cylinder rasp bars and the concave grate rasp and channel bars.

Much of the threshed grain passes through the openings in the grate and the grate extension to the step pan at front of the cleaning shoe. The straw and the balance of the grain passes between the grate rear extension and beater behind cylinder onto the straw rack.

The beater slows down the straw, then spreads and deflects it down onto the rack, materially aiding separation.

OPERATING SUGGESTIONS.

Cylinder Speeds.

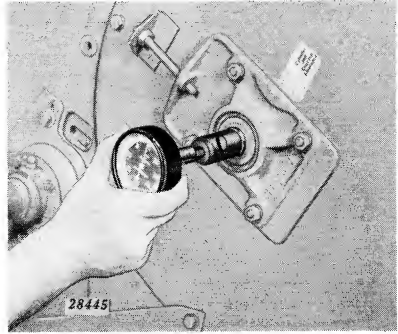
Under average conditions cylinder should operate at about 1300 rpm for small grains and from 600 to 750 rpm for soy beans.

The coarser grains do not require as high a cylinder speed as the finer grains and small seeds. In grains hard to thresh, it may be necessary to increase the speed of cylinder slightly.

Damp grain requires a higher speed than grain that is dry. If cylinder speed is too high, grain may be cracked and straw broken up too much; overloading the cleaning shoe. Use as much speed as possible, up to a reasonable

point, to do good threshing. If increased speed causes cracking, reduce speed to where cracking is eliminated, then move cylinder toward concave to get sufficient rubbing action to remove grain from heads.

If material is wrapping on the cylinder, increase the cylinder speed slightly. If this does not eliminate wrapping, the cylinder stripper may be out of adjustment (see page 61).



Checking Cylinder Speed

IMPORTANT: Do not adjust tractor governor to vary speed of cylinder. This varies the speed of the entire combine—the result is inefficient operation.

Remember, good threshing depends largely upon having the correct cylinder speed. Test speed with indicator—never guess.

Cylinder and Concave Spacing.

The spacing between the cylinder rasp bars and grate bars is indicated by the position of the pointers on the cylinder shaft bearing brackets. The spacing is set at $\frac{1}{4}$ -inch at the factory, which is satisfactory for threshing most small grains. Final adjustment must be made in the field to meet the actual conditions.

If all seed is not being threshed out, decrease the spacing. If seed is being cracked, and reducing the cylinder speed does not help, increase the spacing.

In some crops, particularly clover and flax, it is sometimes necessary to adjust cylinder closer to the grate. Never set the cylinder closer than $\frac{3}{16}$ -inch from the grate. If threshing is not satisfactory at the setting, increase the cylinder speed or put additional rasp or channel bars on the cylinder (see page 64).

Cylinder.

Where there is trouble getting brushy beans, cornstalks, heavy sweet clover or big weeds to feed promptly to cylinder, every other rasp bar can be removed. This increases cylinder suction. When this is done, it is usually advisable to increase cylinder speed about 100 to 150 rpm. Should cracking occur at this higher speed, raising the cylinder will usually stop it. In adverse conditions, it is sometimes necessary to compromise between complete threshing and minimum cracking.

Kaffir, maize, and similar crops require an aggressive cylinder action to remove the seeds from the heads. The addition of eight channel bars to work with the eight rasp bars will provide more aggressive action (see page 64).

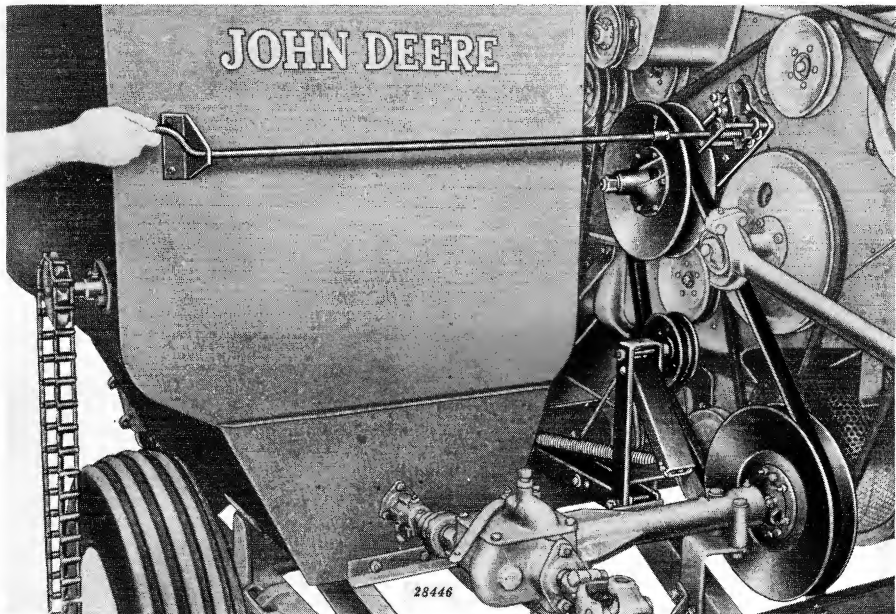
When threshing a crop like clover, the inside of the machine becomes very dusty. This dust will collect on the back of the cylinder rasp bars, disturb the balance of the cylinder, and cause vibration. Wood filler blocks are available that can be clamped to the back of the rasp bars to keep out dust and trash (see page 63).

Concave Grate.

In some crops that are extremely hard to thresh, threshing can be improved by using snap on covers over the openings between the first two or three grate bars (page 65). This will keep the material on the threshing surface for a longer time. This should only be done when absolutely necessary as the straw may be broken up and tailings become excessive.

ADJUSTMENTS.

Quick-Change Cylinder Speed Control.



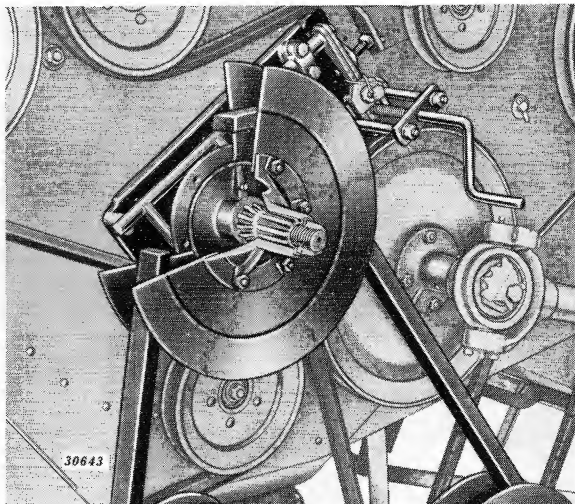
Quick-Change Cylinder Speed Control

The cylinder speed is quickly and easily changed to meet changing crop conditions. By simply turning the crank, any speed within a selected range can be obtained. The illustrations on the next page show how the sheave halves on the cylinder shaft move in and out when the crank is turned.

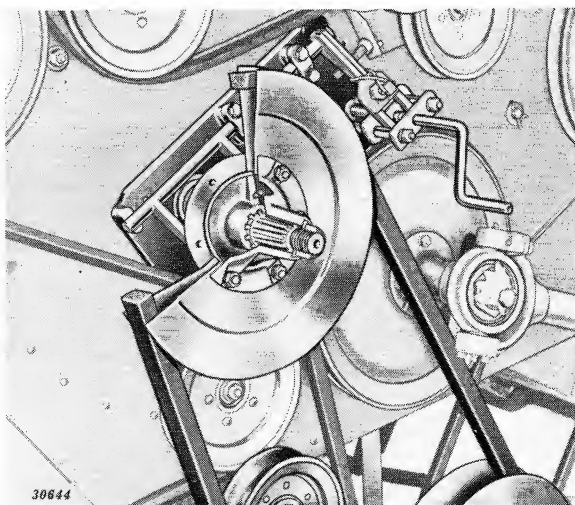
The lower sheave on the gear case or engine, is also adjustable. In addition, the sheave plates on the upper and lower sheaves are interchangeable so the large sheave can be used on either shaft. By interchanging sheave plates in conjunction with the plate spacing adjustment, a range of cylinder speeds is available from 430 to 1685 rpm.

When the small ($12\frac{3}{4}$ -inch) sheave is on the cylinder shaft (which is the way the combine is shipped) a range of speeds from 715 to 1685 rpm is available. Each revolution of the crank will change the cylinder speed approximately 25 rpm. With the large (15-inch) sheave on the cylinder shaft, the speed range is from 430 to 1070 rpm. With this arrangement, every revolution of the crank will change the cylinder speed approximately 12 rpm.

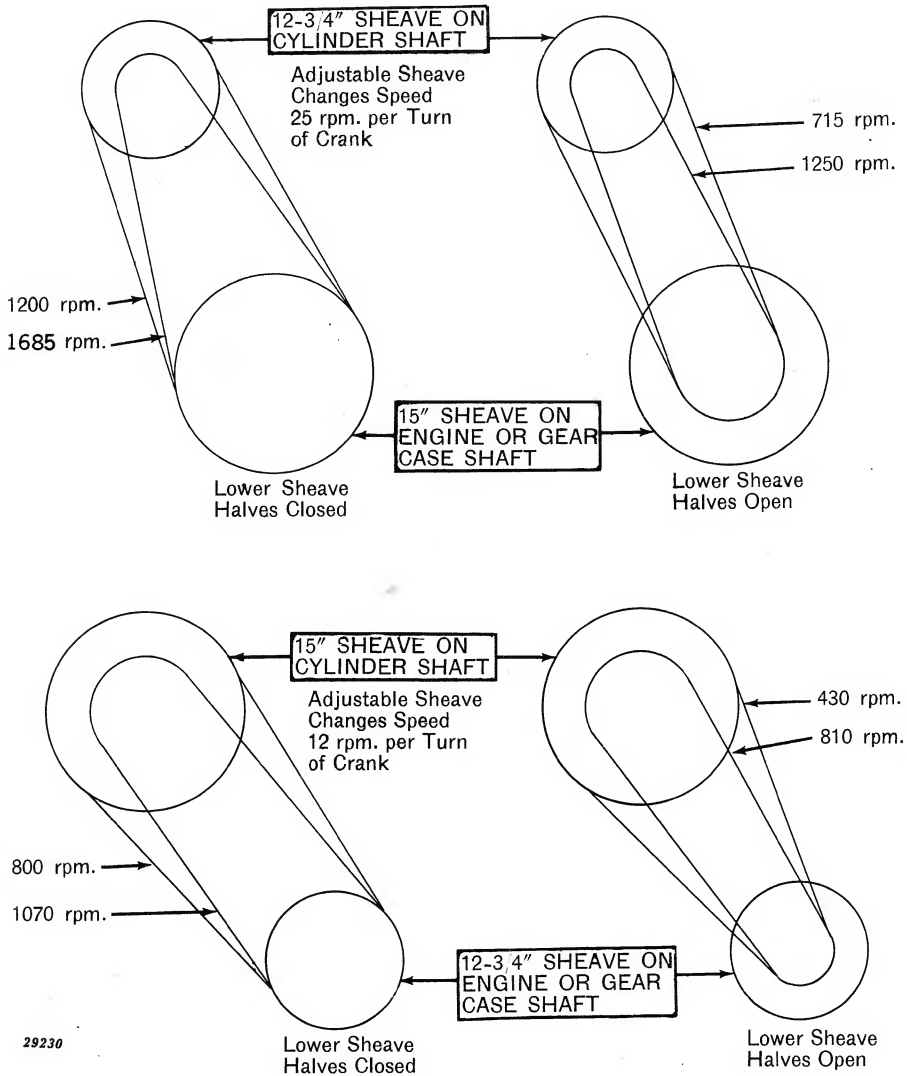
The illustration on the next page shows the location and spacing of the sheaves for the different speed ranges. With the large sheave on the gear case shaft, and the sheave halves $2\frac{3}{8}$ inches apart, the range of speeds available will handle most small grains.



Fast Speed Position of Quick-Change Cylinder Speed Control



Slow Speed Position of Quick-Change Cylinder Speed Control



Maximum and Minimum Speed Ranges

Adjustment of Sheave on Gear Case.

Release the tension on the belt tightener. Remove the three long bolts and screw the inner sheave half in or out as desired. Replace the long bolts. Adjust the belt tightener so the cylinder drive belt is just tight enough to run without slipping.

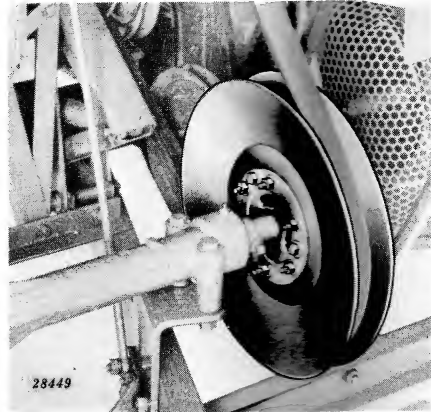
Interchanging Sheave Plates.

Release the tension on the cylinder and separator drive belt tighteners. Remove the three long bolts and the separator drive sheave. Screw the adjustable sheave hub completely off the rigid hub and remove the drive belt. Remove the sheave plates from the hubs.

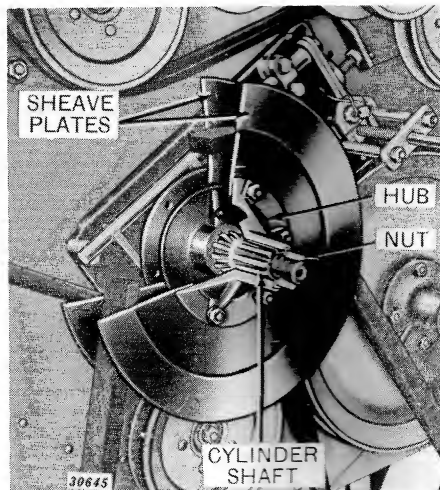
Loosen the hex. nut on the cylinder shaft. Strike the nut sharply with a soft hammer to loosen the outer sheave hub on the tapered spline. If this does not loosen the hub, slotted holes are provided in the hub so a gear pulley or long bolts can be used to remove the hub. If bolts are used, put the bolt heads in the slots and thread the bolts through holes in a plate placed against the end of the cylinder shaft. Nuts can then be screwed onto the bolts against the plate to pull the hub loose.

Bolt the sheave plates removed from the gear case hubs to the hubs for the cylinder shaft. Slide the inner hub onto the cylinder shaft, being sure fork prongs seat properly on the back of the hub. Slide the outer hub onto the shaft so the lubrication hole lines up with the grease fitting on the inner hub. Install the washer and stop nut. Tighten the nut to 150-foot-pounds torque.

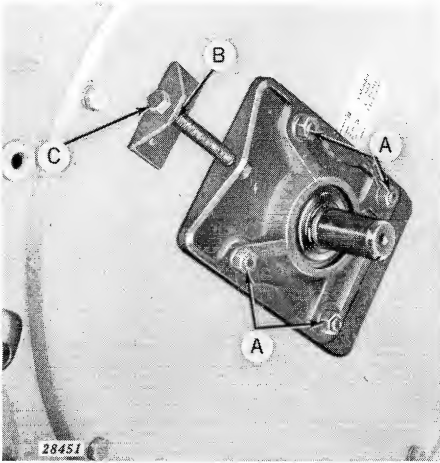
Bolt the sheave plates removed from the cylinder shaft hubs to the gear case hubs. Position the cylinder drive belt and screw the adjustable hub onto the rigid hub to the desired spacing. Install the three long bolts. Bolt the separator drive sheave in place and put the drive belt around the sheave. Adjust the cylinder and separator drive belt tightener so the belts are just tight enough to run without slipping.



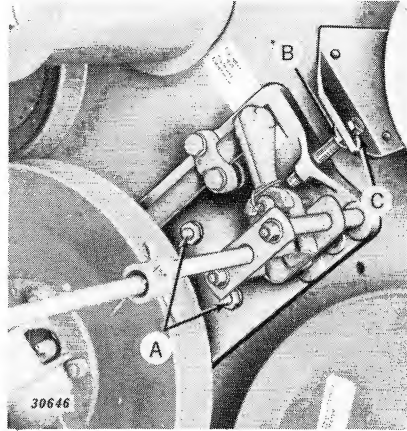
Gear Case Sheave



Cylinder Shaft Sheave



*Cylinder Spacing Adjustment—
Left-Hand Side*



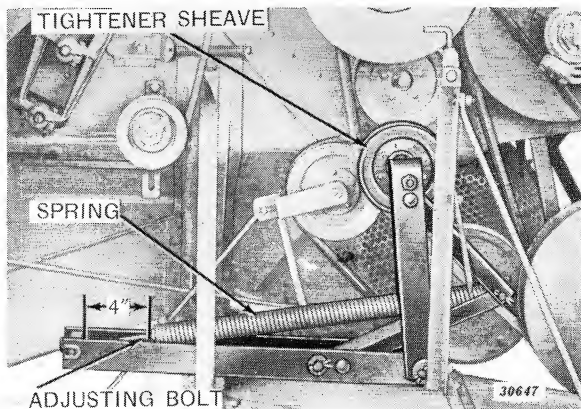
*Cylinder Spacing Adjustment
Right-Hand Side*

Cylinder and Concave Grate Spacing Adjustment.

Loosen the bolts "A" on both sides of the combine. Loosen the lock nut "B" and screw the bolt "C" into the bearing support casting to raise the cylinder, or out of the casting to lower the cylinder. Then tighten the bolts and the lock nut. **Be sure to adjust both ends of the cylinder evenly.** When setting the cylinder 3/16-inch from the grate, use a 3/16-inch shim between the cylinder and concave to insure uniform spacing at both ends and to guard against too close a setting.

Cylinder Drive Belt Tightener Adjustment.

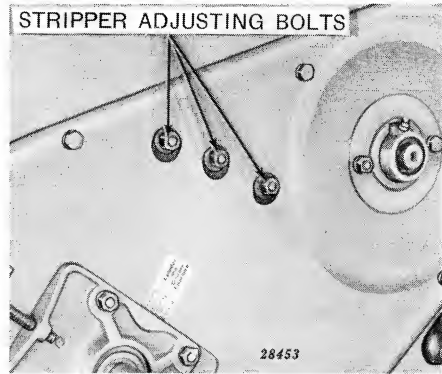
The linkage and spring arrangement of the cylinder drive belt tightener is designed to maintain the proper belt tension, regardless of the position of the adjustable sheaves. The tightener is adjusted by screwing the adjusting bolt into the plug in the spring. Adjust the tension so there is 4" between adjusting bolt block and plug in end of spring. This will give sufficient tension on belt for normal operation.



Cylinder Drive Belt Tightener

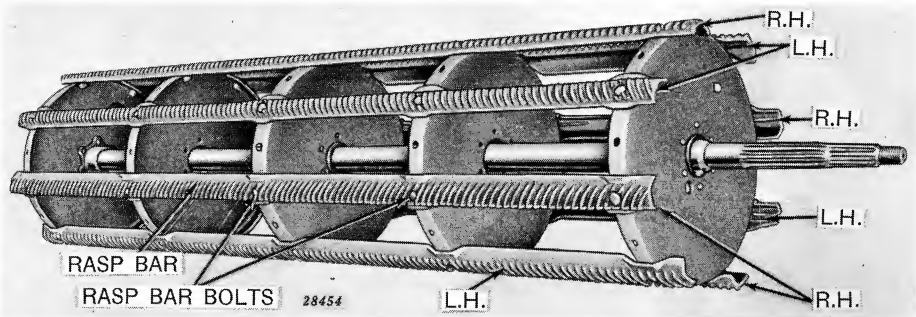
Cylinder Stripper Adjustment.

The heavy stripper angle, located just above and slightly to rear of center of the cylinder, prevents material from back feeding around cylinder. The stripper is set $\frac{3}{16}$ -inch away from cylinder when the combine leaves factory. It should never be necessary to touch this adjustment. However, if cylinder backfeeds and the stripper is not set $\frac{3}{16}$ -inch away, it should be so adjusted.



Cylinder Stripper Adjustment

CARE OF CYLINDER AND CONCAVE GRATE.



Cylinder

Rasp Bars.

Keep the rasp bar bolts tight. Check the bolts frequently to be sure they are tight, especially after installing new rasp bars. It is a good plan to check the rasp bar bolts after combine has operated for a few hours and tighten if necessary.

In fields where rocks are numerous be extremely careful to prevent them from getting onto platform canvas and into cylinder. Bent cylinder rasp bars do not have the proper relationship to grate. The result is poor threshing at the point where bars are bent. If rasp bars are bent they should be straightened immediately. The bars are drop-forged steel and can be straightened by placing a long blunt shaft on the back side of bar and striking shaft with a heavy hammer. This can usually be done without removing cylinder. Open the hinged door just ahead of cylinder and reach through cylinder with a long bar or shaft. Rasp surface should be checked with a straight edge after straightening.

Whenever a cylinder rasp bar must be replaced, the mating bar on the other side of the cylinder also must be replaced to maintain proper cylinder balance. Replacement rasp bars are sold in matched sets as follows:

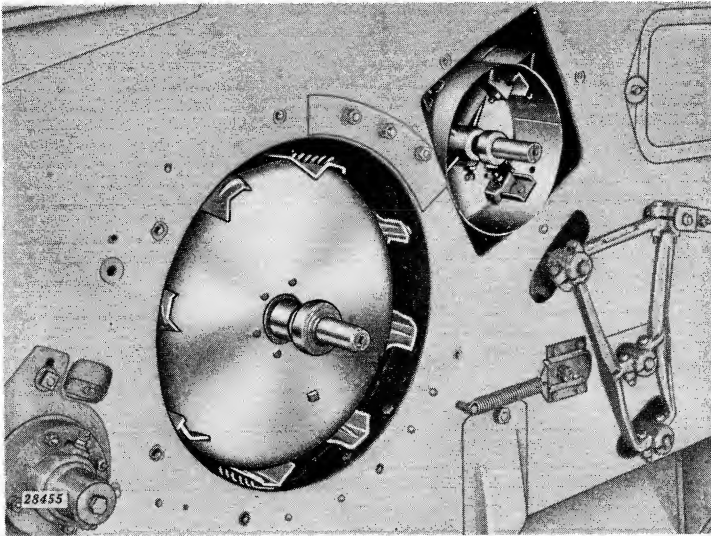
AP19725H— Two balanced cylinder bars, right-hand, complete with bolts.

AP19726H— Two balanced cylinder bars, left-hand, complete with bolts.

REPLACING THE CYLINDER.

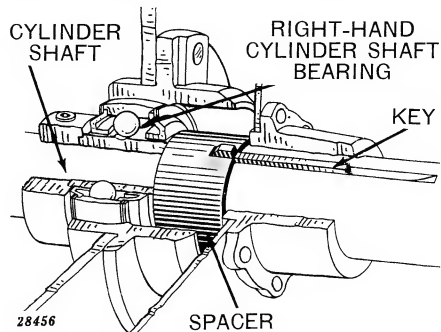
Removal. Remove the outer sheave half from the right-hand end of the cylinder shaft (see page 59). Slide the inner sheave half off the cylinder shaft. Remove snap ring from cylinder shaft. Release the shaft from the right-hand bearing by unscrewing the locking collar.

Remove the cap screws holding the left-hand end sheet to the separator side sheet. Pull out the cylinder together with the side sheet which is held to the cylinder shaft by the bearing and bearing bracket. (The illustration below shows the side sheet removed).



Cylinder and Beater Side Sheet Removed

Installation. Slide the cylinder into the combine from the left-hand side and replace side sheet if it has been removed. Tap the cylinder shaft to the right until the spacing collar on the cylinder shaft is snug against the right-hand bearing. This will center the cylinder in the combine. Make sure this spacing collar is in place between right-hand cylinder bearing and right-hand cylinder head hub with notch in collar over end of key. Tighten the locking collar on the right-hand bearing, and replace snap ring. Then turn the cylinder several revolutions to be sure the cylinder turns freely. After installing the cylinder, check spacing between cylinder and concave.



Spacer on Right-Hand End of Cylinder Shaft

CYLINDER AND CONCAVE GRATE SPECIAL EQUIPMENT

SLOW SPEED ATTACHMENT.

For very large seed crops such as peas and large edible beans, a slow speed drive consisting of sprockets and steel roller chains can be furnished to operate the cylinder at 175, 250, or 350 rpm.

The slow speed drive parts (except for cylinder driven sprocket) can be obtained as package number 14974HH. The cylinder driven sprockets required to obtain the different speeds are:

P44934H — 175 R.P.M.

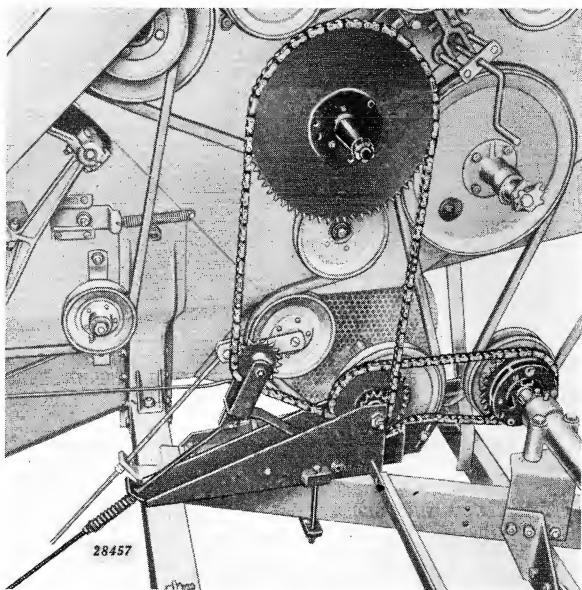
Cylinder Driven Sprocket

P44935H — 250 R.P.M.

Cylinder Driven Sprocket

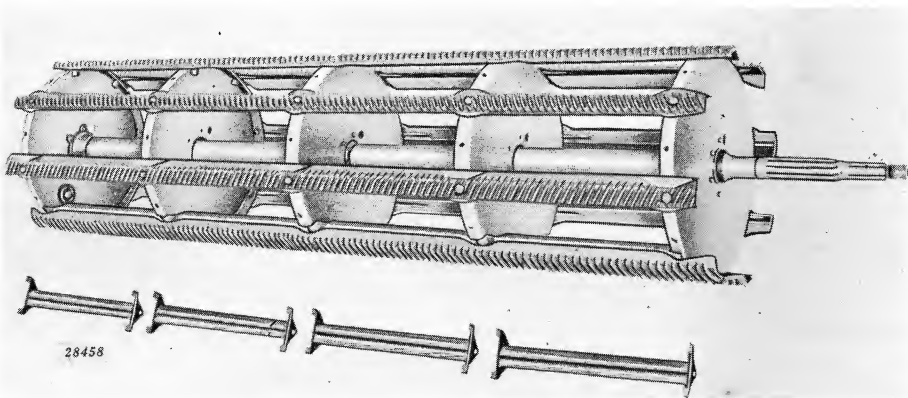
P44936H — 350 R.P.M.

Cylinder Driven Sprocket



Slow Speed Attachment

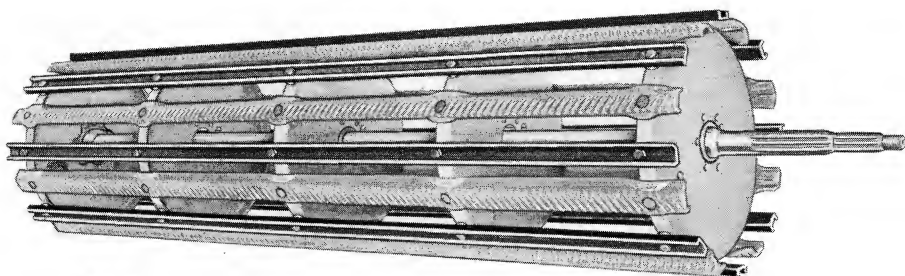
RASP BAR FILLER BLOCKS.



Cylinder Rasp Bar Filler Blocks

When combining extremely dry, dusty crops such as windrowed clover; dust and dirt will accumulate in the groove on the back of the cylinder rasp bars. This accumulation of material can unbalance the cylinder, causing vibration and damage to the cylinder and concave. Filler blocks are available to be installed on the back of the rasp bars. The blocks are tapered to the rear to shed dust and dirt and prevent damage to the cylinder and grate. A set of filler blocks can be obtained by ordering Package No. 10971HH.

CHANNEL-TYPE CYLINDER BARS.



28459

Channel-Type Bars Installed on Cylinder

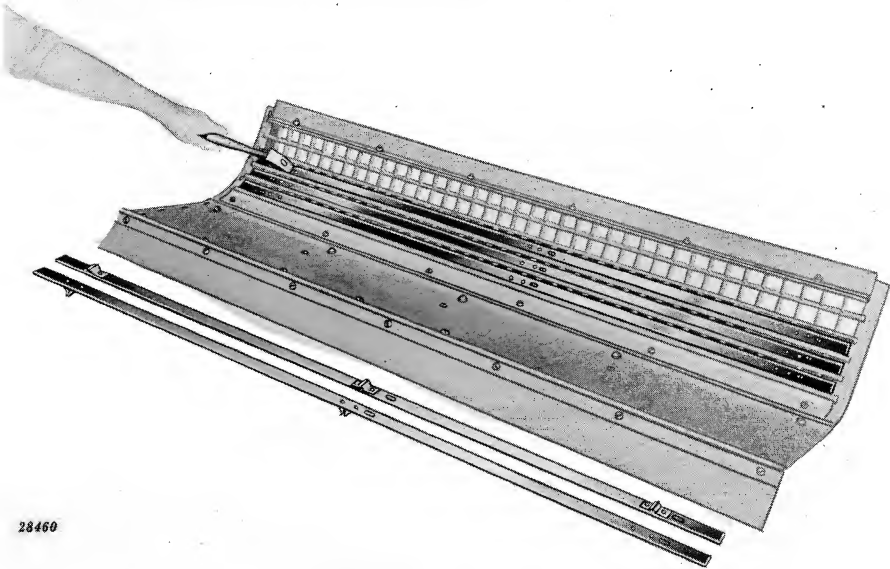
Kaffir, maize, and similar crops require aggressive cylinder action to remove the seeds from the heads. A set of eight channel-type cylinder bars are available to be used in addition to the regular rasp bars for more aggressive action.

These bars are furnished complete with bolts and washers. The proper use of the spacer washers when installing the channel bars is important. When adding channels to a new cylinder, place one spacer washer between each bar and the drum. This will make the outside diameter of the channel bars the same as the outside diameter of the rasp bars.

When adding channels to a cylinder on which the rasp bars show some wear, bolt the channels directly to the cylinder drums, without using spacer washers.

When harvesting a rank, brushy crop, where some difficulty is experienced in feeding the cylinder, an extra spacer washer should be installed between each channel and the cylinder drum. The over-all diameter of the channels will then be slightly larger than that of the rasp bars. This will increase the suction and aggressiveness of the cylinder. In an aggravated case where feeding still is not satisfactory, the use of another washer should bring satisfactory results.

A set of eight channel-type cylinder bars can be obtained by ordering package No. 10991HH.

CONCAVE GRATE COVER PLATES.

Concave Grate Cover Plates Installed

Hard-to-thresh crops such as clover and some grass seeds require an exceptionally aggressive threshing action to loosen the seed. Concave snap on covers are available to prevent the material from falling through the front portion of the grate. They hold the material in the threshing zone longer so more threshing can be performed.

The covers simply snap into place over the grate openings. A set of five covers can be obtained by ordering package No. 14919HH.

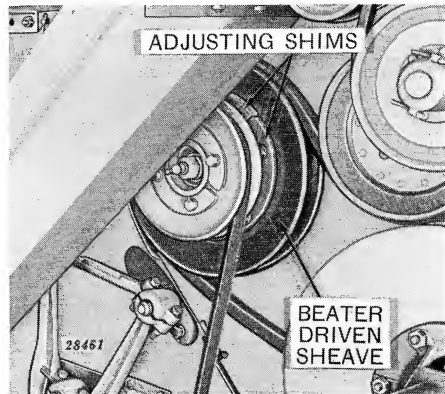
BEATER BEHIND CYLINDER

The beater behind the cylinder slows down the material coming from the cylinder, tears apart the straw, and spreads it over the rack for better separation. See page 70 for an illustration showing the location of the beater behind the cylinder.

ADJUSTMENTS.

Beater Speed.

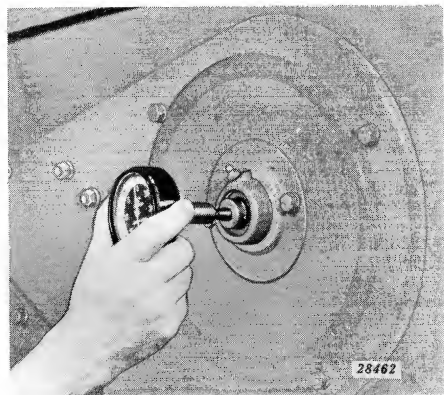
The beater driven sheave is adjusted at the factory to operate the beater at 650 R.P.M. when the tractor or combine engine is operating at fast idle. The beater speed is increased by transferring split shims from the outside to the inside of the outer half of the sheave. Beater speed is reduced when shims are transferred from the inside to the outside of the sheave. One thickness of shim will change the speed about 25 R.P.M.



Beater Driven Sheave

Before checking the beater speed, check the basic speed of the combine. This is done at the outer end of the feeder canvas drive roller (see page 50). When the combine basic speed is 540 R.P.M., the beater with no shims between the sheave halves, will operate at 650 R.P.M.

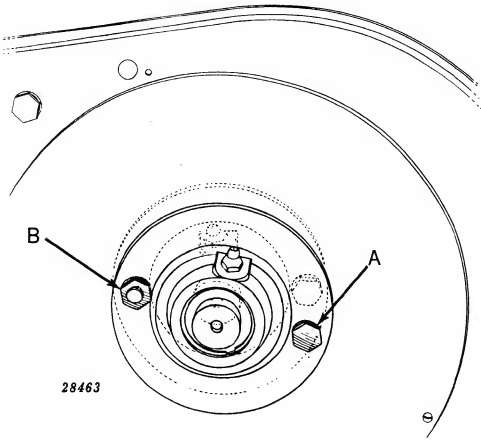
NOTE: Whenever the beater speed is changed, the straw rack speed also will be changed unless the straw rack drive sheave is adjusted accordingly, see page 71.



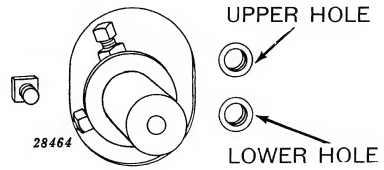
Checking Beater Speed

Beater Operating Position.

The beater can be set in two operating positions—high and low. When the combine is shipped, the beater behind the cylinder is in the high, or upper position. It should operate in this position in all conditions except when very light straw makes it necessary to reduce the clearance between the beater and the concave rear extension.

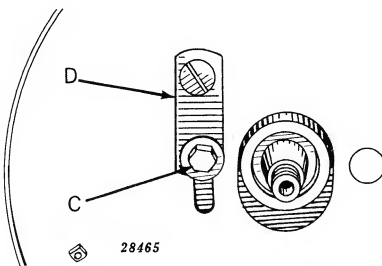


L. H. Beater Bearing Showing Two Positions for Beater

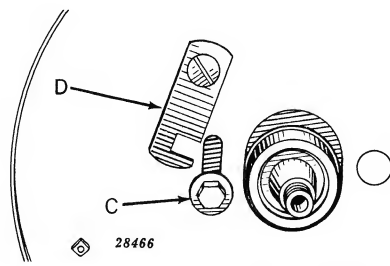


L. H. Bearing Plate Removed to Show Holes for Two Positions of Beater

Moving Beater to Lower Position. Remove the rear cap screw "A," from the left-hand beater bearing plate and loosen the nut "B" on the front bolt. Pivot the bearing plate on the front bolt until the cap screw can be started into the lower hole in separator side sheet as shown on the left above. Release the tension on the separator drive belt and loosen the drive sheave on the beater shaft so the right-hand bearing cap screws can be reached. Loosen the rear cap screw "C" and unhook the notched strap "D" from the cap screw. The beater will drop to the lower position as shown on the right below. Tighten the bolts in the beater bearing plates. Secure the drive sheave and adjust the separator drive belt tension, (page 50).



R. H. Bearing Showing Beater in Upper Position



R. H. Bearing Showing Beater in Lower Position

COVERS OVER BEATER TEETH.

Triangular Covers Over Beater Teeth

When the combine is shipped, the spike teeth on the beater behind the cylinder are covered with detachable V-shaped metal covers. These covers prevent winding of green material on the beater. Many combines are started when winding on the beater is apt to occur because of tough straw, green weeds, and vines. Covers should be left in place on the beater except when grain is coming over the straw rack. Then they should be removed so the spike teeth can tear apart the straw to aid separation.

If the beater has tendency to wrap when the covers are removed, the wrapping can often be overcome by removing the front curtain.

Cover Removal. The covers, which are fastened to the beater drum by clips and cap screws, can be removed without taking the beater out of the combine. The left-hand clips and cap screws are reached through the inspection door on the left-hand side of the combine. The right-hand clips and cap screws can be reached over the straw rack.

When the covers have been removed, replace the cap screws to prevent dust and chaff from entering the beater drum.

REPLACING THE BEATER.

Removal. Remove drive belt from beater driven sheave and remove grease fitting from end of beater shaft. Remove the sheave from the shaft (the shaft is tapered; tapping the end of the shaft will loosen the sheave). Then remove the Woodruff key from the shaft.

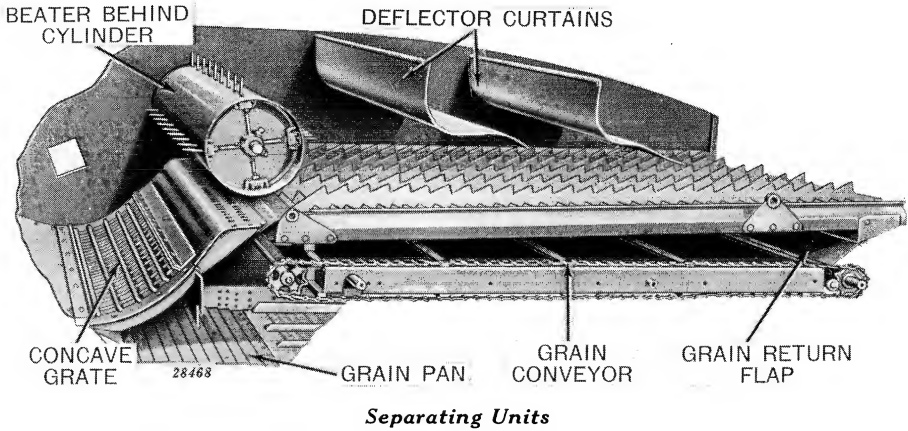
Remove the cap screws holding the left-hand beater and cylinder end plate to the separator and pull off the end plate. Then pull the beater out of the combine.

Installation. Slide the beater into the combine, with the tapered end of the shaft first. Guide the tapered end of the shaft through the right-hand beater bearing. Install the left-hand beater and cylinder end plate and bolt it in place. Put on the beater driven sheave, with the Woodruff key in place. Secure the sheave with the large nut. Then install the separator drive belt and the grease fitting in the end of the beater shaft.

REPLACING THE BEATER SHAFT.

Remove the beater from the combine as described above. Loosen screws in beater hubs and pull out shaft. When installing a new shaft, be sure $4\frac{3}{8}$ inches of the shaft protrudes from the left-hand beater hub. Fasten shaft to beater hubs with set screws and key.

The spacer collars on the beater shaft are used to center the beater between the combine side sheets. Outside face of spacer on right-hand or drive end should be $\frac{5}{8}$ -inch inside the right-hand edge of beater drum. Spacer on left-hand end should be $\frac{7}{8}$ -inch inside the left-hand edge of the beater drum.

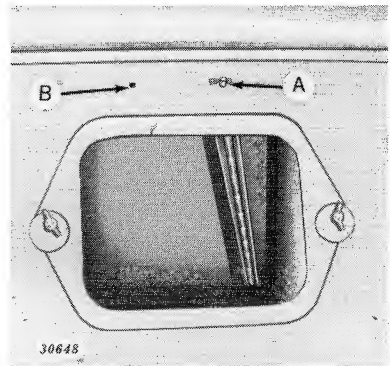


DEFLECTOR CURTAINS

The two deflector curtains, located to the rear of the beater and over the straw rack, stop flying grain and prevent it from being thrown out the back end of the combine.

TWO POSITIONS FOR FRONT CURTAIN.

The front deflector curtain can be located in two positions ("A" and "B"). The rear position "A" is the normal position and where the curtain is located when the combine is shipped.



Front Deflector Curtain Positions

OPERATING SUGGESTIONS.

If fluffy straw is retarded by the front curtain even when it is in the rear position, the curtain can be removed entirely. Do this as a last resort only, as grain and straw will be thrown far back on the straw rack before separation can take place.

In some cases, the deflector curtains may not retard the straw enough to prevent grain from being carried over the straw rack. A light piece of wood tacked to the back of the curtain, 1 to 1½ inches from the bottom, will hold the curtain down and hold the straw on the rack longer for better separation.

When handling windrowed crops the straw may not spread out over the full width of the straw rack and grain will be thrown over the rack. Nail a strip of wood to the bottom of the front curtain and cut the strip and curtain into three sections to spread out and retard the straw.

STRAW RACK

The straw and grain that has not been separated at the grate, passes from the beater onto the straw rack where the remaining grain is separated. Grain that falls through the rack is returned to the front end of the cleaning shoe by an endless conveyor. The straw rack is carried on live rubber bushings. There is no wear on the bushings if clamps are kept tight. No lubrication is required.

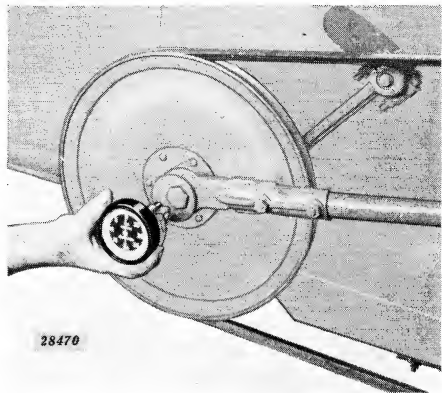
The grain conveyor just below the straw rack operates over a solid bottom sheet. It carries grain that has fallen through the straw rack to the front end of the cleaning shoe.

SPEED ADJUSTMENT.

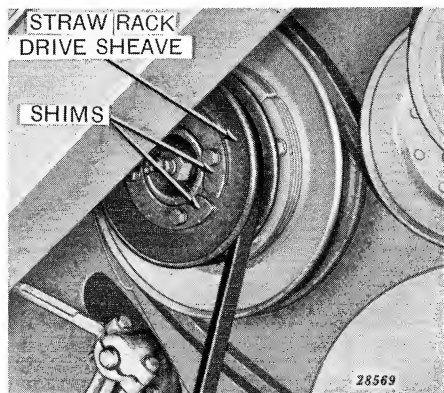
Reducing the rack speed retards the movement of material; increasing the speed moves the material faster. The normal speed is 270 R.P.M. when the engine is operating at fast idle.

With feeder canvas drive roller operating at basic speed of 540 R.P.M. and beater at 650 R.P.M.; the straw rack will operate at 270 R.P.M. when there are three shims between the halves of the straw rack drive sheave on the beater shaft. The speed of the rack is increased by removing shims or decreased by adding shims between the sheave halves. One thickness of shims changes the rack speed 8 to 10 R.P.M. Rack should never be operated over 300 R.P.M.

When the beater speed is increased the rack speed is also increased. Therefore, shims in the straw rack drive sheave must sometimes be shifted so the rack speed will not be excessive.



Checking Straw Rack Speed



Straw Rack Speed Adjusting Shims

OPERATING SUGGESTIONS.

Keep the straw rack pitman clamp bolts tight to prevent wear on the rubber bushings. Looseness can damage the entire straw rack.

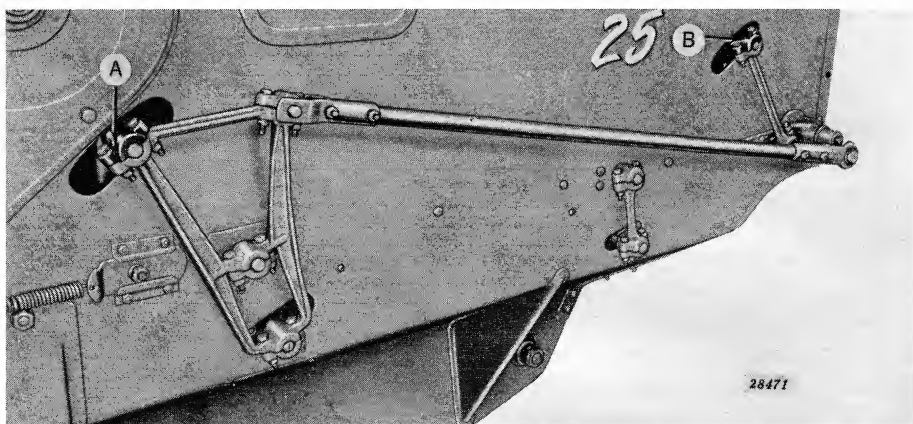
Grain "going over" the straw rack is sometimes caused by the entire machine running too fast. Be sure feeder canvas drive roller is operating at 540 R.P.M. before checking speed of other units.

If material has a tendency to hesitate in its movement over the rack, remove the front curtain. A hesitation of straw just behind the beater can lead to back feeding around the beater.

If straw and grain are moving over the rack too fast for good separation, reduce the rack speed.

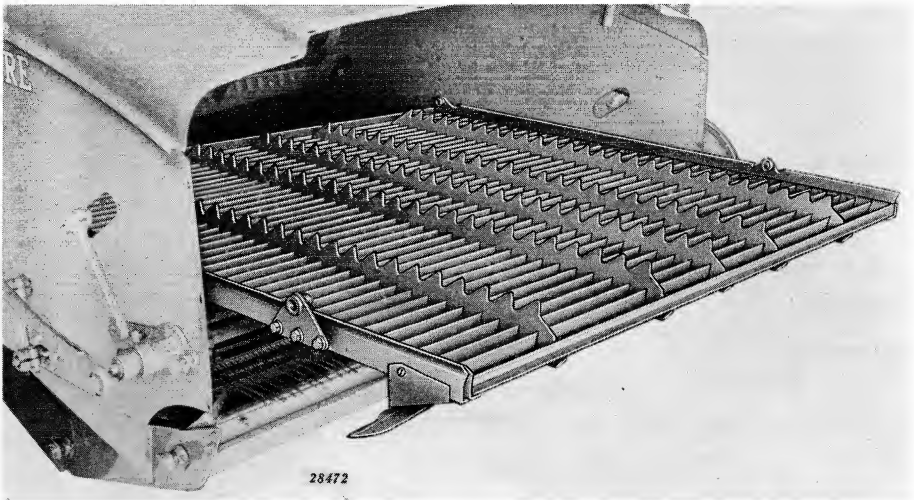
If light, fluffy straw tends to gather on the rack and moves through in bunches, remove the front curtain.

REPLACING THE STRAW RACK.



Straw Rack Studs and Clamps

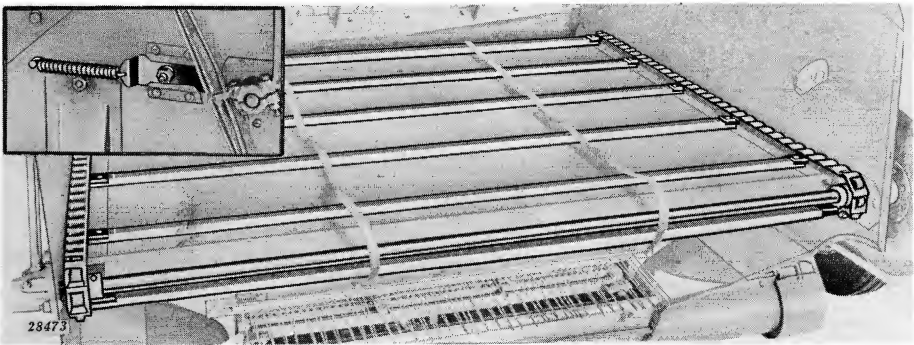
Remove rear hood. Remove clamps around rubber bushings for straw rack studs (see "A" and "B"). Loosen nuts on inner end of four tapered studs through rack hangers and brackets. Two pieces of 2" x 4" wood about five feet long should then be laid on top of the grain conveyor and the straw rack drive pulley turned until the rack rests on these wood pieces. The studs should then be tapped out of the rack brackets. This can be done two ways: (1) Hold a heavy bar against the brackets on rack and driving studs outward. Do not strike threaded end of stud. Screw nut part way on stud to protect threads. (2) The other method of loosening studs is to place a bar between hanger and separator side, then pry outward on the hangers at the outside of machine and with a heavy, blunt punch through slots in side of machine, tap inward on rack brackets. Studs are tapered and only require a sharp blow to release them.



Straw Rack Partially Removed

With studs removed, rack can then be pulled out of the combine.

CARE OF CONVEYOR.



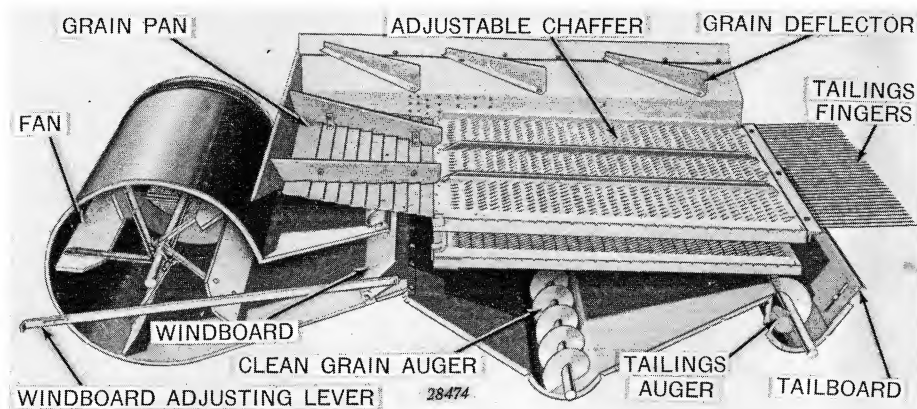
Grain Conveyor

The conveyor requires very little attention from the operator except for lubrication of shaft bearings, repair or replacement of broken slats, and an occasional check to see that chain and slats run straight on sprockets and that V-Belt is not slipping.

The tension of the conveyor chain is automatically maintained by coil springs (see insert). If chain stretches so that the spring tension does not hold the chain tight, remove a chain link from each of the side chains.

Replace broken slats promptly. Check riveting of slats to attachment link.

CLEANING UNITS



Cleaning Units for John Deere No. 25 Combine

The final process in grain handling is cleaning. This is done by the cleaning fan, adjustable chaffer and adjustable sieve.

The grain and chaff are conveyed to the front of the adjustable chaffer where the rough cleaning is done. The heavier material passes over the adjustable chaffer and tailings fingers and out of the combine.

Any unthreshed heads fall through the tailings fingers and are returned to the cylinder for rethreshing.

The grain and a minimum of small chaff fall through to the adjustable sieve where the final job of cleaning takes place.

A strong blast of air from the fan is directed toward the chaffer and sieve by the adjustable windboard. This blast blows away all material lighter than the grain.

Any material that has fallen through the adjustable chaffer but is too large to pass through the sieve, falls into the tailings auger and is returned to the cylinder for rethreshing.

The quantity of foreign material in the harvested grain has a decided bearing on the grade and market value of the crop. Weed seeds, dirt and trash must be removed ultimately. Effective cleaning requires intelligent use of adjustments and is under the control of the operator.

A number of adjustments are built into the cleaning units and a proper balance of these adjustments is possible for handling most every crop and condition.

CLEANING FAN

One of the most important functions of the blast from the cleaning fan is to keep the material "alive" on chaffer and sieve. To do this the fan blast must be strong enough so, when combined with the shaking action of the sieves, it will keep chaff lifted slightly off the sieves.

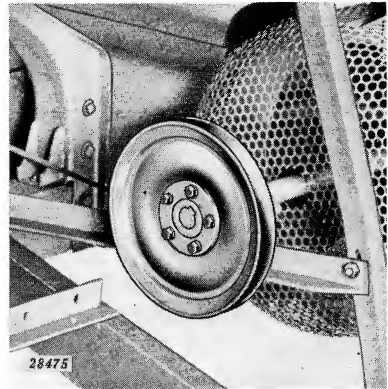
Use as much blast as possible without blowing grain over the chaffer and sieve. Some crops require more blast than others.

FAN BLAST ADJUSTMENTS.

Two adjustments control the amount of blast. They are the driven sheave on fan shaft and the valves at ends of fan housing. The position of the blast on the chaffer and sieve is controlled by the windboard.

Fan Sheave.

A variety of fan sheaves is available to change the fan speed and deliver the proper blast for the crop being harvested. The sheaves are easily changed, since five cap screws hold the sheave to the hub. A 9-5/8 inch diameter sheave is furnished as regular equipment which operates the fan at 655 R.P.M. This is the proper blast for all small grains and a number of special crops.



Fan Sheave

The following chart lists all the sheaves available, the speeds they deliver, and the crops for which they are normally used.

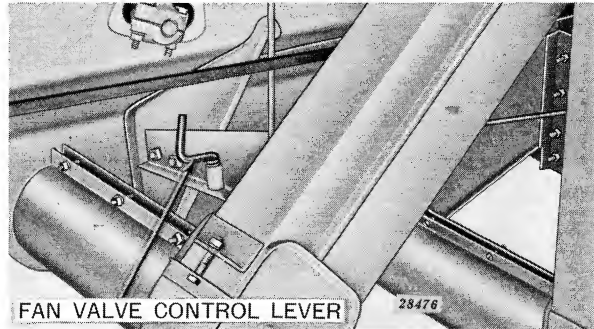
FAN SHEAVES

Sheave	Diameter	Fan Speed	Crops
AP13610H	11- $\frac{3}{4}$ "	536 R.P.M.	Light seeds such as colver, alfalfa, timothy, flax, grass seeds, etc.
AP13574H	9 $\frac{5}{8}$ "	655 R.P.M.	Small grains.
AP13575H	8-11/16"	755 R.P.M.	Sorghums, soy beans, edible beans and peas, and other large heavy seeds.
AP14014H	7 $\frac{3}{8}$ "	900 R.P.M.	Edible beans, peas and other large heavy seeds.
AP14015H	6-1/16"	1100 R.P.M.	Edible beans, peas and other large heavy seeds.

Valves at Ends of Fan Housing.

These valves are closed or opened to control the amount of air taken in by the fan. When cleaning a light seed they should be partly or completely closed; and opened wide when handling a heavy seed. When handling extremely light seed and it is not possible to reduce blast sufficiently to prevent seed from blowing over the shoe, close openings completely by placing cardboard or sheet metal over the uncovered portion of the openings.

Both valves at the ends of fan housing are adjusted by the one lever located at the rear of the combine between the tailings elevator and right-hand side of combine. To open valves push lever forward; to close, pull lever to the rear.



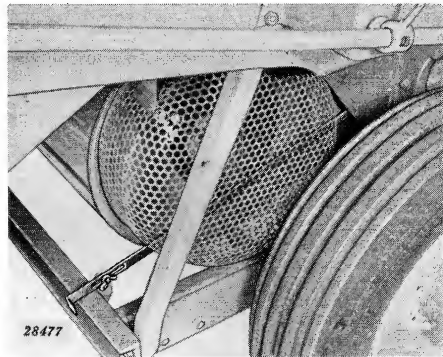
Fan Valve Control Lever

Do not close fan valves too much, an erratic blast may result. It is better to change to the proper size sheave.

Uneven distribution of blast on cleaning sieves may be due to the fan not being centered between ends of fan housing, or fan spiders not being in line on shaft. Check and correct if necessary.

Windboard.

The position of the blast on the chaffer and sieve is determined by the setting of the windboard. Windboard position is regulated by a lever located on the left-hand side of machine just to the front of fan housing. The combine leaves the factory with windboard set to direct the blast through the front one-third of the shoe.



Windboard Control Lever

Push lever to the rear to throw blast to the rear and pull it to the front to throw blast to the front of shoe.

The blast should be directed well to the front of shoe when chaffer is heavily loaded. However, if the windboard is tipped to throw the blast too far forward on chaffer, there is apt to be an accumulation of material at the rear end that will carry grain out of the machine.

ADJUSTABLE CHAFFER

The adjustable chaffer does the rough job of cleaning. Its lips are adjustable to control the amount of material that can fall through. The lips should be adjusted so very little of the clean grain, but all of the unthreshed heads pass into the tailings auger. The lips are set about one-half open when combine is shipped. This is an average setting and should not be disturbed unless crop conditions prove that a change is necessary to save the most grain and produce the cleanest sample.

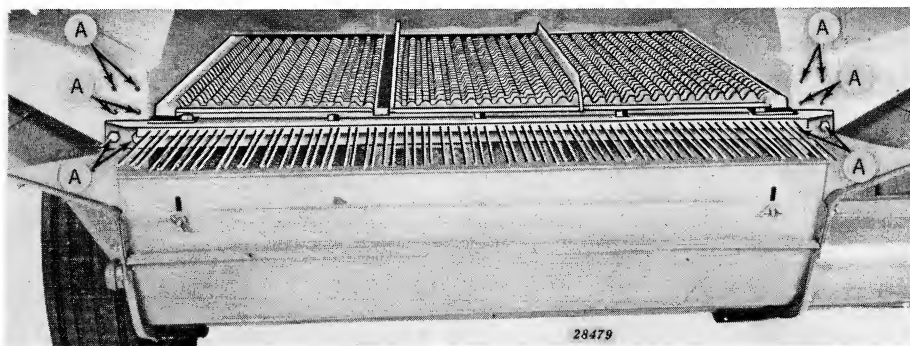
A good rule to remember is to run chaffer with lips opened as far as possible without admitting too much coarse material and so the grain works through before it passes over two-thirds the length of the chaffer.

The position of the lips is regulated by the lever shown at the right.



Chaffer and Sieve Adjusting Levers

Chaffer Height Adjustment.



Chaffer Height Adjustment

When combining clover and other small seeds that are very light, the blast from the fan tends to blow some of the seed out the back of the combine. The rear end of the chaffer can be raised so the material must be blown "up hill". This will keep the material on the chaffer longer and give the seed a better chance to drop through onto the sieve.

Three sets of holes "A," have been provided so the chaffer can be set in three different positions, depending upon conditions. When the rear end of chaffer is raised, close up the lips until they are almost shut to prevent an excessive amount of chaff from falling through.

CHAFFER REPLACEMENT.

The rear end of the adjustable chaffer is held to the shoe at both sides by cap screws through the tailings finger support angle. The front end of the chaffer slides under the shoe grain pan and is not bolted in place. To remove the chaffer, simply remove the four cap screws and pull out the chaffer together with the tailings fingers and support angle.



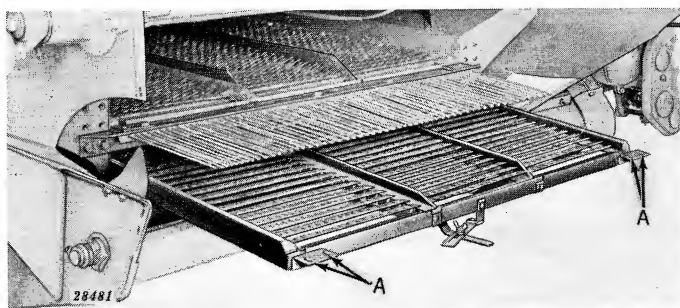
Chaffer Retaining Cap Screws

When installing the chaffer, be sure the front end slides under the grain pan. Fasten the rear end of the chaffer to the shoe with four cap screws.

ADJUSTABLE SIEVE

The adjustable sieve does the final job of cleaning. Its lips and openings are smaller than those on the adjustable chaffer. The lips should be set so clean grain can fall through before it reaches the tailings auger. The fan blast and shaking action of the sieve will move the balance of the material to the tailings elevator or out of the combine.

When the combine is shipped, the lips of the adjustable sieve are set $1/3$ open. They are regulated by the lever shown on page 77.



Sieve Partially Removed

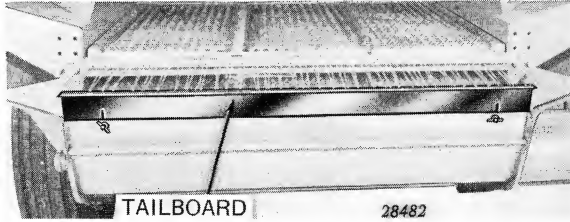
Sieve Replacement.

The sieve is held in the cleaning shoe by four bolts through the hole "A." Lower the tailboard, remove the bolts and pull the sieve out from the rear of the combine.

TAILINGS FINGERS.

The fingers at the rear end of the chaffer pass long straw out of the combine but allow unthreshed heads to fall through into the tailings auger which carries them back to the center of the cylinder for rethreshing.

TAILBOARD.



Tailboard

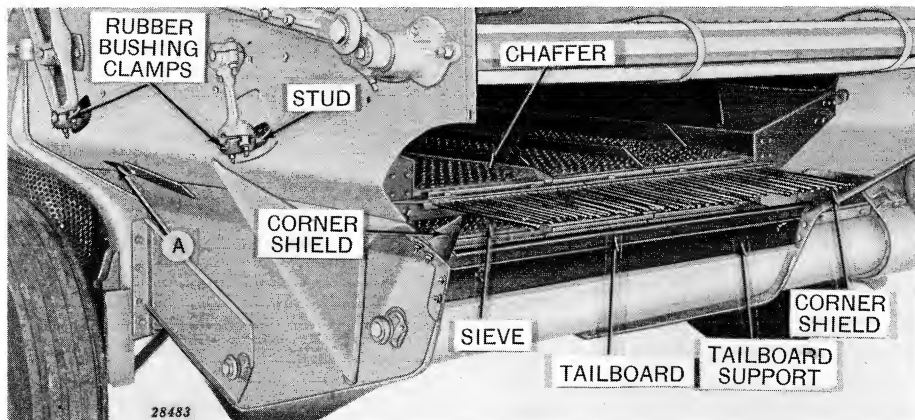
The sliding tailboard can be raised to touch the underside of the fingers or can be lowered until it is almost level with the rear edge of tailings auger housing.

In light chaffy conditions the tailboard can be lowered to allow the cleaning fan to blow out more of the chaff that has fallen through the adjustable sieve thus reducing the amount of tailings.

If seed is light and blows out with the chaff, raise the tailboard.

Careful adjustment of the tailboard can materially improve the cleaning job under every condition and especially in light seed crops.

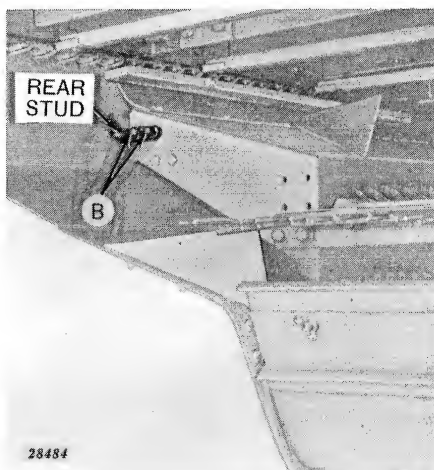
REPLACING CLEANING SHOE.



Parts To Be Removed So Cleaning Shoe Can Be Removed

Removal. Remove chaffer and sieve. Also remove the tailboard, tailboard support and the corner shields as shown above. Remove three bolts holding canvas seal (from fan housing to grain pan) to underside of grain pan. These bolts can be seen when chaffer and sieve are out of the cleaning shoe.

Remove clamps from around rubber bushings for front and rear shoe studs. Reach up through the hole "A," in bottom of flange on side of separator body with a wrench and remove nuts from ends of front studs. Then remove studs. Loosen set screws "B," that hold rear studs in place. Remove rear studs. The shoe can now be pulled out of the combine.

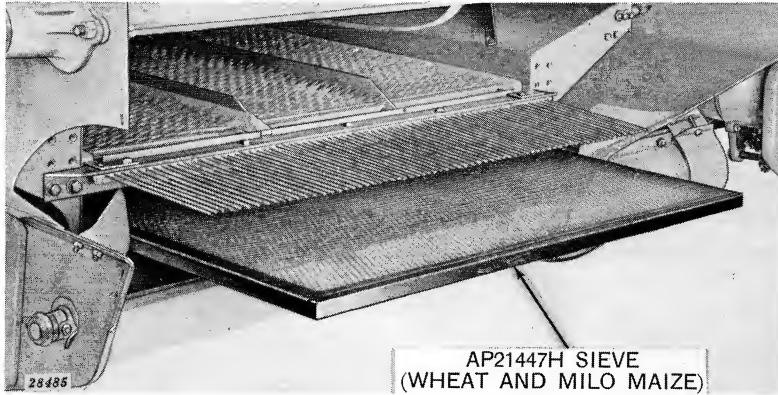


Cleaning Shoe Rear Stud

Installation.

When installing the cleaning shoe be sure to bolt the canvas seal between the fan housing and the grain pan in place before the chaffer and sieve are installed. When installing clamps around rubber bushings on shoe studs, be sure shoe is in the center of its travel. Studs must be located in the center of the slots in the combine side sheets to equalize tension on rubber bushings.

CLEANING SHOE SPECIAL EQUIPMENT

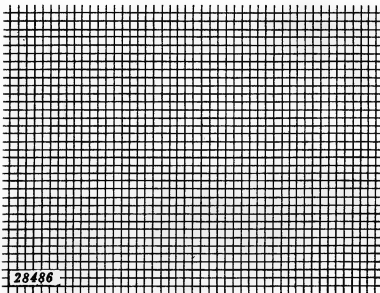


Special Sieve

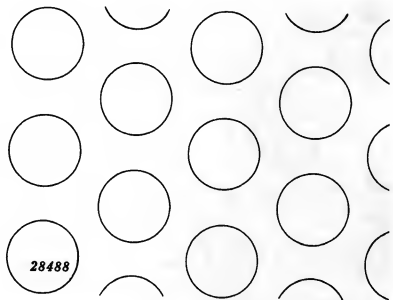
Special Sieve Equipment.

The adjustable sieve will satisfactorily clean almost any crop when properly adjusted. In some seed crops a slightly better job of cleaning can be obtained with a round or slotted hole sieve. These sieves should be used with caution as they restrict the blast from the cleaning fan.

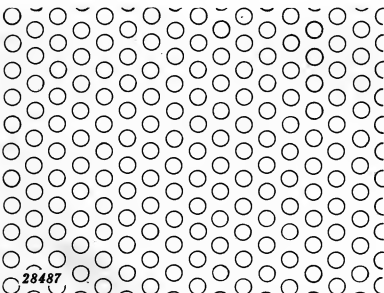
Portions of the special sieves are illustrated below and on the next page to show the type of hole in the various sieves. The crops for which each sieve is most often used are listed.



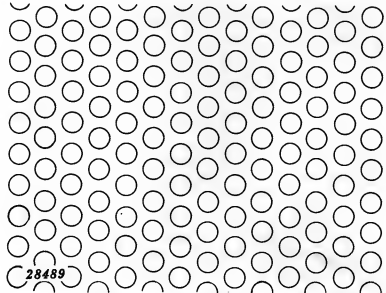
**AP12707H—24 x 24 Mesh Screen
Red Top Clover**



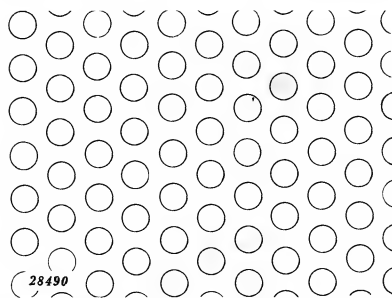
**AP21453H—3/8-inch Round Hole
Soy Beans**



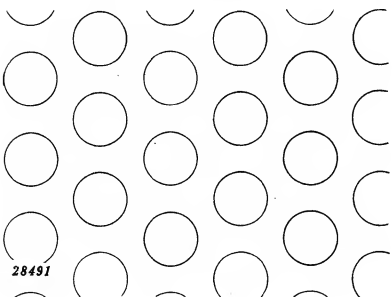
**AP21455H—1/12-inch Round Hole
Timothy**



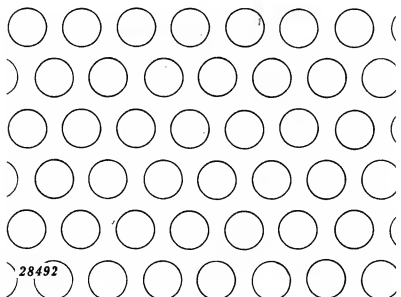
**AP21457H—1/10-inch Round Hole
Clover and Alfalfa**



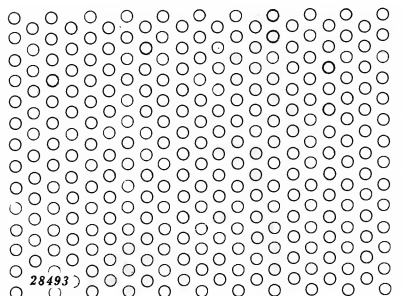
AP21450H—9/64-inch Round Hole
Lespedeza



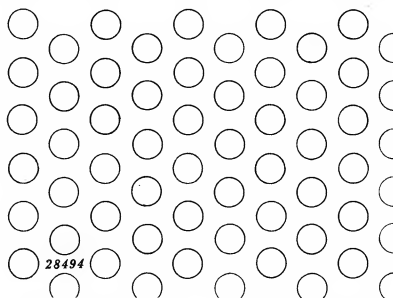
AP21447H—9/32-inch Round Hole
Wheat and Milo Maize



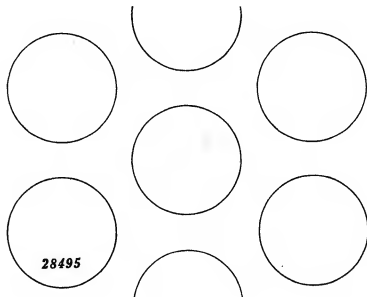
AP21456H—13/64-inch Round Hole
Flax



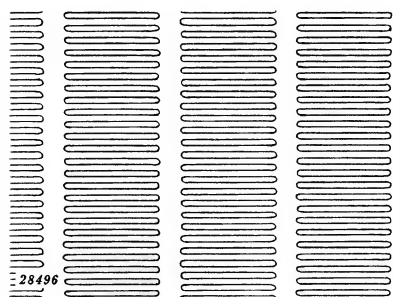
AP21451H—1/16-inch Round Hole
White Dutch Clover



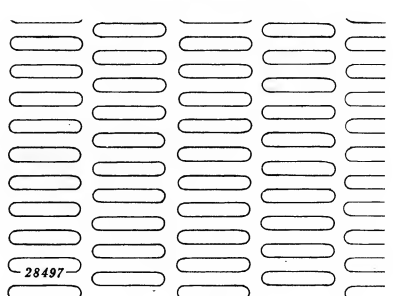
AP21452H—5/32-inch Round Hole
Flax



AP21454H—9/16-inch Round Hole
Navy Beans



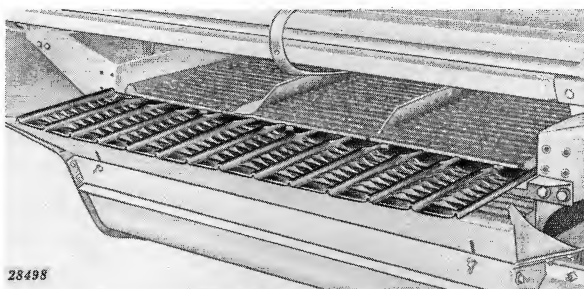
AP21449H—1/32 x 1/2 inch Slotted Hole—Red Top Clover



AP21448H—1/16 x 3/8-inch Slotted Hole—Rye and Orchard Grass

NO-CHOKE CHAFFER EXTENSION.

In a crop where straw and weeds are chopped up fine, the amount of tailings can be reduced by using the No-choke chaffer extension in place of the finger bar. This attachment is available as No. 10908HH.



No-Choke Chaffer Extension

When installing the chaffer extension, the flat spacer goes between the extension and the support angle for the adjustable chaffer.

WIRE MESH COVER FOR TAILINGS FINGER BAR.

When a trashy condition prevents good work and a No-Choke Chaffer Extension is not available, temporary relief can be obtained by covering the fingers with a $\frac{1}{4}$ inch square mesh screen.

A special screen No. AP14124H can be ordered for this purpose.

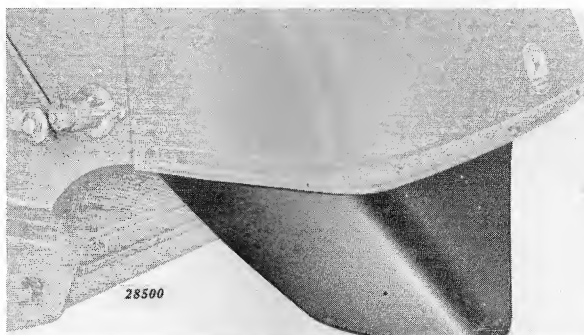


Wire Mesh Cover

LONG STRAW DEFLECTOR.

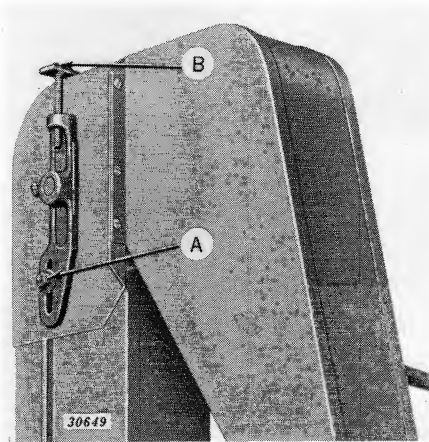
The long straw deflector throws the straw to the right, away from the standing grain so a cleaner swath can be cut. It is especially useful when working in a strong wind to keep the straw from blowing into the unharvested grain.

The long straw deflector is available as No. AP22040H.



Long Straw Deflector

CLEAN GRAIN AND TAILINGS ELEVATOR

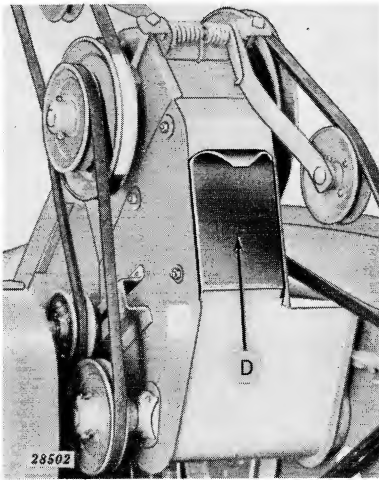


*Elevator Conveyor Chain
Adjustment*

CONVEYOR CHAINS.

The conveyor chains in both elevators should be just tight enough so they do not climb or jump sprockets.

Adjustments. Loosen bolt "A" which clamps tightener brackets to elevator sides. Screw adjusting bolts "B," both sides, into tightener brackets to **increase** and out to **decrease** chain tension. When tension has been adjusted equally on both sides, tighten bolt "A."

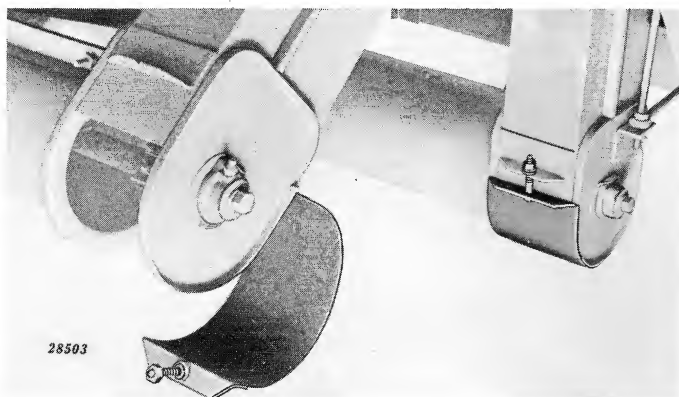


*Tailings Elevator Inspection
Door*

TAILINGS ELEVATOR CLEAN-OUT DOOR.

An inspection door "D" is provided in the spout at upper end of tailings elevator which facilitates inspection of tailings being returned to the cylinder. Frequent inspection of tailings will indicate how efficiently the machine is operating.

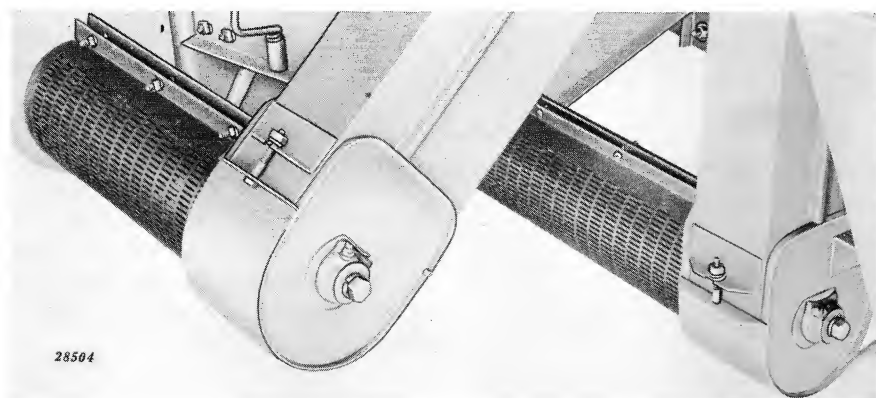
ELEVATOR BOTTOM DOORS



Elevator Clean Out Doors

A hinged door is provided at the bottom of each elevator. Doors can be opened for the inspection of elevator chains and paddles and for cleaning out grain and weed seeds. Open doors and clean out elevators before moving to a different field or crop, at end of each harvest day, or when preparing machine for storage.

PERFORATED CONNECTIONS FOR CLEAN GRAIN AND TAILINGS ELEVATORS.

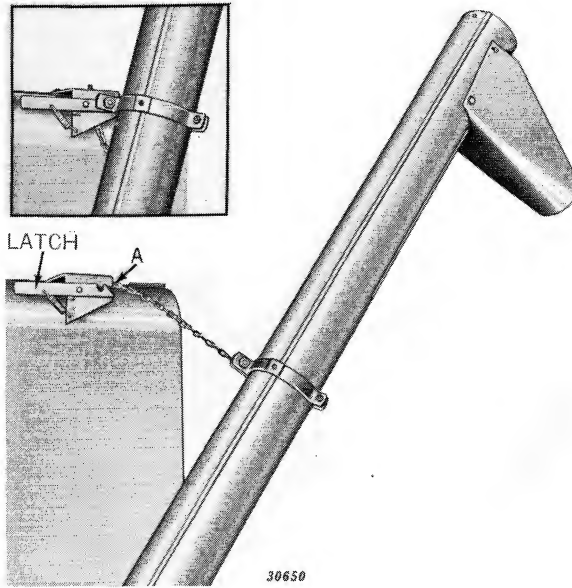


Perforated Auger Housings Connections

Auger connections with slotted perforations may be obtained that will permit dirt and small chaff to be separated from grain by dropping through the perforations. Order:

- 10778HH— $1/16"$ x $1"$ slotted Hole Connection for Clean Grain and Tailings Augers (Small Grain)
- 10780HH— $3/32"$ x $3/4"$ Slotted Hole Connections for Clean Grain and Tailings Augers (Soybeans)
- 10782HH— $5/32"$ x $3/4"$ Slotted Hole Connections for Clean Grain and Tailings Augers (Peas and Beans)

GRAIN TANK AND UNLOADING AUGER

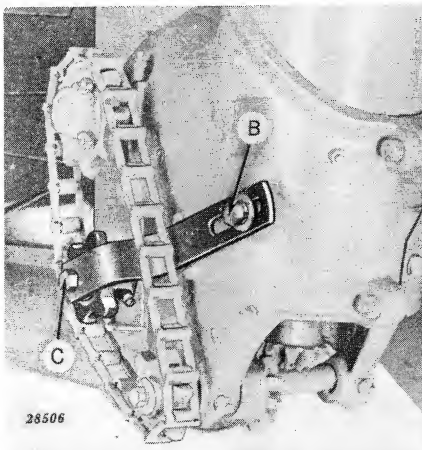


Unloading Auger

The capacity of grain tank on the John Deere 25 Combine is 25 bushels.

The grain tank is unloaded by releasing the latch, swinging the unloading auger over a wagon or truck, and engaging the unloading auger drive.

The unloading auger can be emptied of all grain by lowering the spout to ground and operating the auger. To lower spout, remove bolt "A," releasing stop chain.



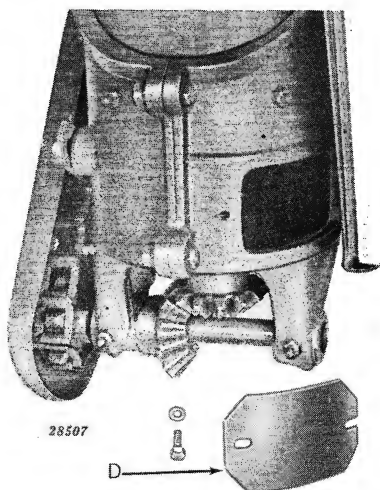
Unloading Auger Chain Adjustment

The drive chain for grain tank vertical unloading auger should be kept tight enough so links do not climb sprocket teeth.

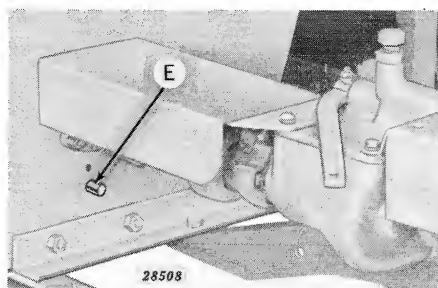
Adjust by loosening cap screw "B," and moving tightener arm with sprocket "C" in or out to increase or decrease chain tension. Retighten cap screw when desired tension has been obtained.

Any accumulation of material in bottom of vertical unloading auger can be removed through clean-out door "D" in the boot casting.

To remove door, loosen cap screw securing inner end of door and remove cap screw from outer end. Door and gasket are slotted to permit freeing from inner cap screw.

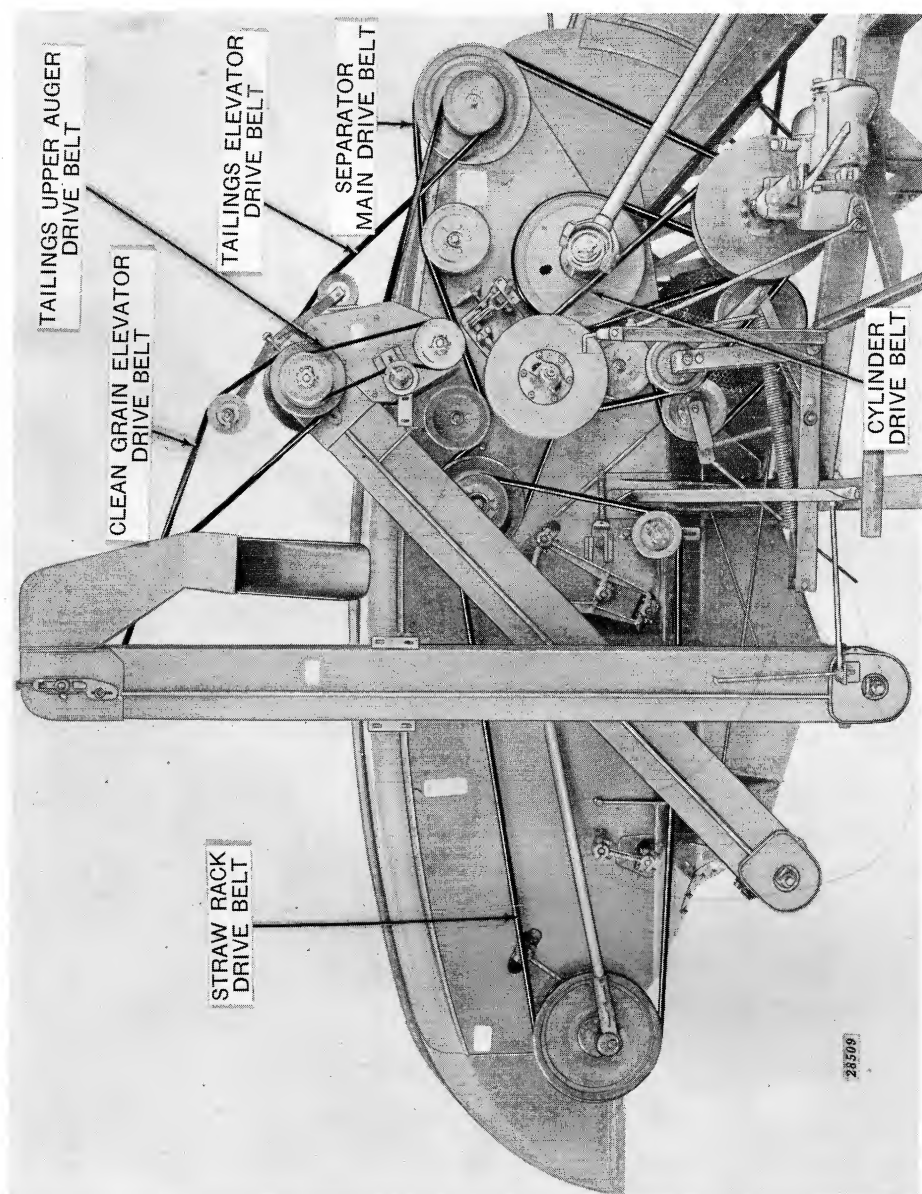


***Unloading Auger Clean-Out
Door***



Grain Tank Drain Plug

On the front of the grain tank, near the bottom, is a small hole for draining any accumulated water from the tank. If combine is allowed to stand out in rainy weather, wood plug "E" should be removed. Plug should be in place when combine is operated.



V-Belts on John Deere 25 Combine

CARE OF V-BELTS

When installing a belt, all tighteners should be loosened. Never pry a belt over the edge of a sheave, as the rupture of one or more cords will weaken the belt to such an extent that it will fail prematurely.

V-Belts stretch when new. Check tension frequently for the first few days and promptly take up the initial stretch so belt does not slip. More belts are ruined by lack of tension than by too much tension. If slippage occurs, excessive heating will result and shorten the belt life.

Be careful not to allow grease to remain on a belt. Remove the grease with a rag moistened with a solvent. Do not dip belts into a solvent to clean.

The condition of the sheave flanges has a definite bearing on belt life. If they are too narrow or mutilated, the belts cannot give satisfactory service.

A slight raveling of the belt covering does not indicate premature failure. The raveling should be cut off if the covering peels at the lap. A slight application of castor oil on belts that have been exposed to the weather tends to make the covering more pliable and reduces the tendency for it to break away.

At the end of the season, remove the belts and store them in a cool, dry place to prevent damage from the elements.

SLIP CLUTCHES

All important drives are protected by durable slip clutches. When clutches slip, stop immediately, determine the cause and correct. Do not increase tension of slip clutches unless it has been determined by careful examination that lack of tension is the cause of slippage.

Slip clutches are used on the following drives:

- Reel
- Main Power
- Grain Tank
- Clean Grain and Tailings Elevator

Slip clutches at rear end of power shaft and on grain tank drive shaft (Power Drive), should work in average conditions without slipping. Do not over-lubricate these clutches as excessive slippage will result.



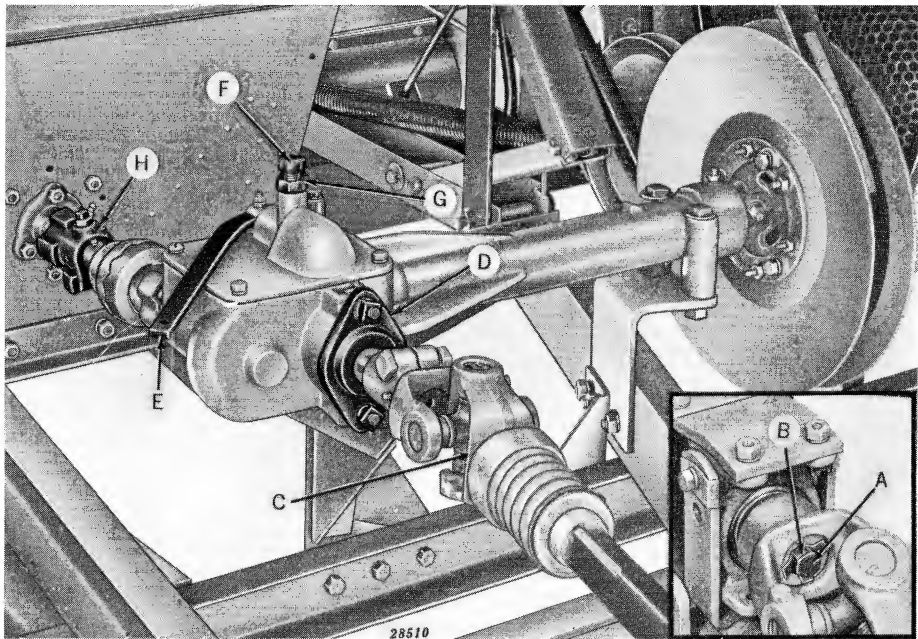
Spring tension of slip clutches on reel drive shaft, tailings and clean grain elevator and grain tank drive (Engine Drive), are adjustable by removing cotter pins and screwing nuts on or off shaft.

Clutch springs should be set with just enough tension to work in average conditions without slipping. **Important:** Set slip clutch loosely at first and tighten gradually until proper working tension is determined. Do not tighten nut more than one-half turn without testing adjustment.

Before prolonged storage, apply a coating of grease to slip clutch jaws to prevent rusting. When removing combine from storage, clean clutches and be sure to put grease in bore of slip clutches after cleaning. Adjust for proper working tension.

Before starting in the field it is good practice to slip all the clutches to be sure they are functioning properly.

POWER LINE, GRAIN TANK DRIVE, AND MAIN DRIVE GEAR CASE



Power Line, Gear Case and Grain Tank Drive

Keep cap screw at "A," securing universal joint to front end of power shaft, tight and lock washer "B" with tang bent against head of cap screw locking it tight.

Be sure nut "C" securing universal joint at rear end of power shaft to telescoping shaft, is kept tight.

Shims are provided under gear case end caps, "D" for meshing bevel gears and adjusting Timken bearings.

Keep main drive gear case filled with a good grade of gun grease. Flush gear case out and refill with clean grease once each season.

Grain Tank Combines Only:

Adjust tension on shifter lever "E" with cap screw "F". To **increase** tension, screw cap screw **down**; to **decrease**, screw cap screw **up**. When desired tension has been obtained, lock cap screw with locking nut "G".

Rear male and female knuckles on grain tank drive should not bottom. Check, and if necessary, loosen set screw and reset with minimum 1/8" clearance laterally.

CARE OF CHAINS

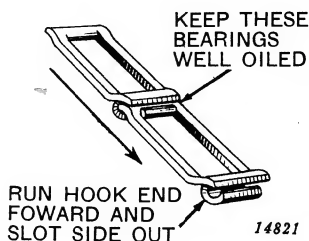
All chains have tightener so chain can be run just tight enough to do the work. If too tight or too loose, chains and sprockets will wear rapidly, and breakage will occur.

Detachable Steel Link Chains.

To attach, run hook end of link forward and slot or open side out to run in direction of sprocket rotation.



To Detach, use tooth of sprocket for backing brace, bend to position shown in illustration and strike at point indicated by arrows.



Steel Roller Chains.

Do not run these chains too tight, but not so loose that they will slap. Extra offset links are furnished in each chain to permit shortening the chain as it wears or stretches.

Sprocket Alignment.

Be certain that all sprockets composing each drive are properly aligned. Drive and driven sprockets may be moved in or out on shafts for proper alignment, and tightener sprockets may be aligned by increasing or decreasing the number of flat washers behind sprocket hub. A sprocket out of alignment will cause the chain to pull to one side, causing rapid wear of chain and sprockets. Inspect sprockets frequently to make sure teeth are not worn enough to cause damage to chain.

Lubrication.

Chains should be lubricated at frequent intervals. A good grade of light cylinder oil should be used. **CAUTION:** Do not oil chains when operating in dry, sandy conditions as sand will stick to the oiled chain and act as an abrasive, causing undue wear to chain and sprockets.

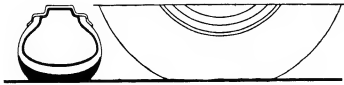
Cleaning.

Exposed chain drives should be cleaned regularly. Remove chain and clean by soaking or dipping in a solvent. Dry, then oil chain thoroughly after reinstalling. Before storing combine, clean chains and lubricate them with a heavy oil or grease. When removing combine from storage, reclean the chains and lubricate with a light oil.

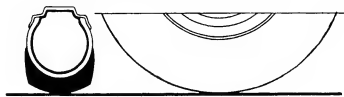
CARE OF PNEUMATIC TIRES

Proper inflation pressure helps prevent damage to tires. Check tire pressure frequently. The proper pressure for these 7.50 x 16, 4-ply rated tires is 24 lbs. Lack of pressure will allow the tire to slip on rim or to buckle the side walls, resulting in torn valve stems, fabric breaks, and uneven tread wear.

Too much pressure causes undue strain on fabric, excessive tread wear, and allows tire to cut in more on wet ground.



UNDER INFLATION



OVER INFLATION



29348 PROPER INFLATION

Keep valve caps screwed onto valve stems, fingertight. This will prevent dirt from getting into the valve core.

Avoid stumps, stones, deep ruts, and other tire hazards.

Do not overload tires by placing an extension on the grain tank.

When season is over, store in a dark place and jack up combine to take load off tires. **Do not deflate tires.**

SERVICE CHART

Suggested remedies to meet varying conditions should be applied with caution. Make a sincere effort to understand your machine and know why you are making an adjustment. In many instances one of the remedies mentioned, properly applied, will take care of your troubles.

CUTTING TROUBLES

1. Improper Setting Up.

- A. Be sure combine has been set up properly.
- B. Remove all paint from bearings, connections and universal joints that may be binding.
- C. Be sure cutting parts operate freely.
- D. Be sure combine is operating at proper speed and that power plant can maintain operating speed under load. Proper speed is 530 to 550 R.P.M. at feeder canvas drive roller. See page 50.

2. Improper Lubrication.

- A. Sickle should be oiled except when working in dry sandy conditions. See Lubrication Charts on pages 8 through 11.
- B. Grease all fitting and oil all connections regularly. See Lubrication Charts on pages 8 through 11.
- C. Wipe all dirt from fittings before greasing and replace all missing fittings at once.

3. Reel Wrapping in Tangled and Weedy Crops.

- A. Outer end of reel wrapping. For a 6-foot platform cut a piece of light sheet metal 6 or 8 inches wide and place in form of band around outer end of slats. For a 7-foot platform install reel end shields, see page 37.
- B. Both ends of reel wrapping. For a six foot platform make end shields for both ends. For a seven foot platform install two sets of 14954HH reel end shield. It will be necessary to install 14955HH reel end shield brackets when putting end shields on right-hand end, see page 37.
- C. Improper reel setting. Place reel well ahead and down. In badly down grain, reel must be operated close to cutter bar but do not run any lower then necessary.
- D. Reel speed too high. Install PK2H, slow speed reel sprocket to reduce speed of reel, see page 36.

4. Reel Carrying Around Straw.

- A. Reel operating too fast. Provide slower speed sprocket, see page 36. Reel should turn just enough faster than ground travel so that heads are batted well back on canvas.
- B. Nodding grain hanging on reel slats. Use a canvas or screen on each set of reel arms. See page 37.

5. Grain Clinging to Outside Dividers.

A. Use loop dividers to ride over lodged vines and downed grain to cut a clean swath. See page 43.

B. Attach rubber wipers to outer ends of reel slats, so they sweep divider clean. See page 36.

C. In long tangled straw use extension divider on a six foot platform. See page 43.

6. Grain "Slobbering" Over Front of Cutter Bar.

A. Reel too forward and too high. Move reel back so it is directly over sickle. Lower the reel

B. Cut as low as possible.

C. Increase reel speed by changing drive sprockets, see page 36. On a 6-foot platform add more reel arms and slats. A total of eight slats can be used if necessary, see page 38.

D. Attach belting wipers to reel slats to sweep crop back to platform. See page 36.

E. Keep reel drive chains tight to avoid reel backlash.

7. Heavy Cutterbar Losses.

A. Platform too high. Lower to cut low growing or down crops.

B. Improper reel adjustment. Move reel back and lower to sweep crop farther back onto platform.

C. Grain falling from cutterbar. Attach belting wipers to reel slats to sweep crop back from cutterbar.

D. Increase number of reel arms and slats on a 6-foot platform. A total of eight slats can be used if necessary. See page 38.

E. Reel shattering heads of grain. Lower reel. Slow down reel speed, see page 36.

F. Cutterbar needs repairing. Replace damaged or worn guard plates, knife sections, guards, and wearing plates. Align guards and tighten loose guard bolts.

G. Straighten knife. A bent or twisted knife will not cut.

H. Knife not registered, see page 39.

I. Adjust sickle clips so sickle works freely, yet provides a shear cut without binding or lost motion.

J. Adjust wearing plates at rear of sections, so there is no looseness between knife back and guard. Slotted holes in wearing plate permit adjustment.

K. If lips of guards are bent up or down, bend lips back to proper position. There should be approximately $\frac{3}{8}$ -inch clearance between underside of lip and top of ledger plate.

L. Play in sickle drive. Remove all looseness or play in sickle drive and pitman.

8. Stopping of Canvases.

A. Canvas slats catching. Be sure that canvas guides are not bent and that protruding bolts and rivets do not catch canvas.

B. Canvases slipping on rollers. **Canvas must be tight.** Shorten if necessary, see page 49; however never shorten canvases to remedy until close inspection shows that canvases are not catching and that rollers are turning freely.

C. Remove surplus canvas ends above connectors.

D. Material wrapping on rollers. Be sure platform corner shields are in place on a 6-foot platform and canvases are adjusted properly for tension.

E. Canvases tight and not catching, but stopping never the less. Inspect and adjust tension of drive belts.

F. Canvas rollers binding. Remove paint from gudgeons and bearings, lubricate freely.

G. Replace worn, damaged or bent drive and idler rollers.

H. Replace worn, damaged or missing drive and idler roller bearings.

I. Canvases not square. Adjust canvases. Coupler bar at ends of canvases should be the same distance from the end of canvas slat.

J. See that spring canvas tighteners function properly.

K. Platform damaged or twisted. If platform is not square canvases will tend to bind. Repair platform.

9. Down and Tangled Crops.

A. Too much material entering combine to thresh satisfactorily. Cut less than a full swath if necessary.

B. Reduce travel speed.

C. Cut as high as possible.

D. Crop lodged or down in one direction. Cut in one direction only if badly down.

E. Adjust reel so it does not press down on uncut grain extending over the platform and retarding uncut grain.

F. Use loop extension dividers if crop hangs on dividers. See page 43.

G. Use pickup guards in extreme down condition. See page 44.

H. A narrower cut and higher travel speed is often helpful.

FEEDING TROUBLES

1. Uneven or Bunched Feeding to Cylinder.

A. Grain clinging to outside divider. See "**Grain Clinging to Outside Divider.**"

B. Canvases not operating properly. See "**Stopping of Canvases.**"

C. Improper feeder throat adjustment. See page 51.

D. In heavy brushy material remove every other rasp bar from cylinder. See page 55.

E. Check basic speed on feeder canvas drive roller. Should be 530 to 550 R.P.M.

F. Adjust reel to feed properly.

- G. On a 6-foot platform add more reel arms and slats. Use eight if necessary.
- H. Attach rubber belting to outer ends of reel slats. See page 36.
- I. Attach belting wipers to reel slats. See page 36.

THRESHING TROUBLES

1. Slugging of Cylinder.

- A. Uneven feeding. See "**Grain Clinging to Outside Divider.**"
- B. Canvases not operating properly. See Stopping of Canvases.
- C. Basic and cylinder speeds not correct. See pages 50 and 57. Adjust cylinder speed for crop.
- D. Combine overloaded. Slow down travel speed. Cut a narrower swath.
- E. Belts slipping. Adjust belt tension.
- F. Be sure combine is empty when starting and is up to speed when entering the cut.
- G. Keep tractor or power unit throttle open. Do not reduce tractor power take-off speed by closing throttle.
- H. Cylinder and concave spacing too close. Raise cylinder, set cylinder to permit the volume of straw and stems to pass through cylinder concave.
- I. Reel not properly adjusted. Adjust to crop condition.
- J. Use the proper number of reel slats. A tall crop requires fewer reel slats; a short crop requires more.
- K. Use proper equipment on reel. See page 36, 37 and 38.
- L. Reel speed incorrect. Use proper sprocket on reel drive shaft. See page 36.

2. Back feeding at Cylinder.

- A. Throat between platform and feeder canvases too narrow. Adjust opening. See page 51.
- B. Cylinder speed too slow. Adjust, see page 57.
- C. Belts slipping. Adjust belt tension.
- D. Cylinder and concave grate set too close. Raise cylinder as high as is consistent with good threshing. See page 60.
- E. Stripper angle set too far from cylinder. See page 61.
- F. Put front curtain in front position or remove entirely. See page 70.
- G. Straw retarded. Increase speed of rack. See page 71. Move front curtain to its rear position or remove entirely.

3. Grain Not Threshed from Heads.

- A. Crop not in condition to thresh. Wait until ripe. See page 15.
- B. Uneven feeding to cylinder. See "**Uneven and Bunched Feeding.**"
- C. Slugs entering cylinder. See "**Slugging of Cylinder.**"
- D. Cylinder speed too slow. See page 57. Check drive belt tension.
- E. Cylinder rasp bars bent. Straighten.

F. Not enough material entering combine to provide proper threshing action. Cut crop lower. Travel faster.

G. Cylinder-concave grate spacing too wide. Lower cylinder. See page 60.

H. Cylinder-concave grate spacing not uniform throughout full width of combine. See page 60.

I. Increase aggressiveness of cylinder by installing eight channel bars or eight additional rasp bars.

J. Unthreshed heads are passing through grate openings. Install as many snap on concave covers in grate as are required.

4. Cracked Grain.

A. Cylinder speed too fast. Readjust. See page 57.

B. Tailings too heavy. See **"Excessive Tailings."**

C. Cylinder concave spacing not uniform throughout full width of machine. See page 60.

D. Not enough straw entering combine to cushion grain. Cut lower. Increase travel speed.

E. Cylinder-concave grate spacing too close. Raise cylinder. See page 60.

F. Slugs entering cylinder. See **"Slugging of Cylinder."**

G. Uneven feeding to cylinder. See **"Uneven or Bunched Feeding to Cylinder."**

H. Cylinder rasp bars damaged by rocks. Straighten.

I. Dented auger housings. Straighten.

J. Bent auger shafts. Straighten.

5. Beater Wrapping.

A. Crop not in condition to thresh. Wait until ripe. See page 15.

B. Move front deflector curtain to rear position or remove curtain. See page 70.

C. Install beater teeth covers if they have been removed. See page 68.

D. Maintain basic speed of 530 to 550 R.P.M. at feeder canvas drive roller. See page 50.

E. Increase rack speed to 270 R.P.M. See page 71.

F. Uneven speed. Tractor or power unit must be in good condition.

G. Drive belt slipping. Adjust belt tension.

6. Material Lodging on Straw Rack.

A. Be sure rack drive belt is not slipping.

B. Move front curtain to rear position or remove entirely.

C. Material catching on deflector curtain rod. Bend rod center support clip up.

D. Maintain basic speed, 530 to 550 R.P.M., at feeder canvas drive roller.

7. Loss of Grain Over Rack.

A. Insufficient speed. Maintain basic speed 530 to 550 R.P.M. at feeder canvas drive roller.

B. Rack openings clogged. Clean out.

C. Openings in concave and concave extension clogged. Clean out.

D. If front curtain has been removed, reinstall. If front curtain is in rear position, move to front position.

E. Front curtain too light. Tack a 1" x 1½" strip of wood to lower edge of front curtain. Divide wood strip into three positions.

F. Removed beater covers.

G. Combine overloaded. Reduce travel speed. Raise cutterbar as far as possible.

H. Point of hitch too high. Adjust tractor hitch to lower point of hitch.

I. Damaged, missing or improperly installed rubber extension to grain return pan at rear of straw rack. Replace damaged or missing extension. See that extension is installed so it is on top of conveyor chain slats. Note: If conveyor chain is turned backwards, this extension will be carried backwards and fall from its proper position.

CLEANING TROUBLES

1. Foreign Material in Cleaned Grain.

A. Insufficient fan blast. Increase blast by opening valves at ends of fan housing or by installing higher speed fan sheave.

B. Blast not directed properly. Adjust windboard lever to direct air blast to front of shoe.

C. Chaffer sieve lips open too far. Close lip openings to a point just below where tailings are excessive.

D. Too much trash and green stems falling through adjustable sieve openings. Use a round hole sieve in lower position if adjustable sieve cannot be set properly.

E. Cylinder chopping straw up, overloading shoe. Reduce cylinder speed. See page 57. Raise cylinder. See page 60.

F. Combine overloaded. Reduce travel speed. Cut as high as possible.

G. Maintain basic speed. 530 to 550 R.P.M. at feeder canvas drive roller.

2. Cleaning Shoe Overloaded.

A. Straw broken up too much. Reduce cylinder speed. See page 56. Increase cylinder concave spacing. See page 60.

B. Increase fan blast, open valves at ends of fan housing. Use smaller fan sheave. See page 75.

C. Adjust windboard lever to place blast farther forward. See page 76.

D. Open lips on adjustable chaffer and sieve. See page 77.

E. Combine overloaded. Reduce travel speed. Raise cutterbar.

F. Raise tailboard to deflect blast through chaffer and sieve.

G. Material cut too fine with reduced cylinder speed and increased cylinder-concave grate spacing. Install one or more snap-on concave covers.

H. Point of hitch carried too low. Adjust drawbar on tractor to raise point of hitch.

3. Grain Going "Over" Cleaning Shoe.

A. Chaffer and sieve overloaded. Open lips of chaffer and sieve. See page 77.

B. Grain blown over. Reduce air blast by closing valves at ends of fan housing or by using larger, slower speed fan sheave. See page 75.

C. Grain riding over with chaff. Increase air blast by opening valves at ends of fan housing or installing smaller fan shaft sheave. See page 75.

D. Point of hitch carried too high. Adjust tractor drawbar to lower point of hitch.

E. Straw broken up too much. Reduce cylinder speed. Increase cylinder concave spacing. See page 60. Install snap on concave covers (order No. 14919 HH). Use one or more covers as required.

4. Excessive Tailings.

A. Open lips of adjustable chaffer and sieve. See page 70.

B. Straw broken up too much. Reduce cylinder speed. Increase cylinder-concave grate clearance. See page 60.

C. Increase fan air blast by opening valves at ends of fan housing or by using smaller fan shaft sheave. See page 76.

D. Adjust windboard lever to throw air blast more toward rear of chaffer. See page 76.

E. Lower tailboard slightly to allow air blast to carry out some of the light material that falls onto lower sieve.

F. Replace tailings finger bar with a No-choke chaffer extension or cover finger bar with square mesh screen. See page 83.

G. Install one or more snap on concave covers.

H. Point of hitch too low. Adjust tractor drawbar to carry point of hitch higher.

CARE BETWEEN SEASONS

WHEN THE SEASON IS OVER

1. Shelter the Combine in a dry place.
2. Canvases and curtains inside of machine should be removed, cleaned and stored in a clean, dry place—out of reach of mice and rats.
3. Remove drive belts, clean and wrap in burlap—store in a cool, dark place.
4. Clean combine thoroughly inside and out. Chaff and dirt will draw moisture, rot wood parts and rust the steel.
5. Clean out augers and elevators. Leave doors open at bottom end of elevators.
6. Clean the adjustable chaffer and sieve and grain pan at front of shoe. Brush beards from straw rack.
7. Bottom of grain tank and unloading augers should be cleaned out. Lower unloading auger to ground and operate combine—also open clean-out door in auger drive housing and operate combine. Remove wooden plug from drain hole in tank.
9. Lubricate the Combine thoroughly. See page 7.
10. Repaint parts from which paint was worn.
11. Support platform with blocks to level it.
12. Block up combine, taking load off tires. **Do not deflate tires.**
13. List the repairs that will be needed and order them early. Dealer can give better service and once parts are received they can be installed during spare time—no delay then at harvest time.
14. Grease slip clutches to prevent rusting.

AT THE BEGINNING OF NEXT SEASON.

1. Inflate tires to proper pressure—See page 93.
2. If combine has been blocked up remove blocking.
3. If platform has been removed, replace and relubricate feeder canvas drive roller bearings.
4. Replace canvases and curtains.
5. Replace drive belts. See page 88.
6. Close doors at bottom of elevators and unloading auger.
7. Replace wooden plug in drain hole in grain tank.

USING THE PARTS LIST

This Parts List illustrates the various units disassembled in their proper relation to each other which is commonly known as "exploded" views. This method of listing parts is used so parts wanted may be easily located.

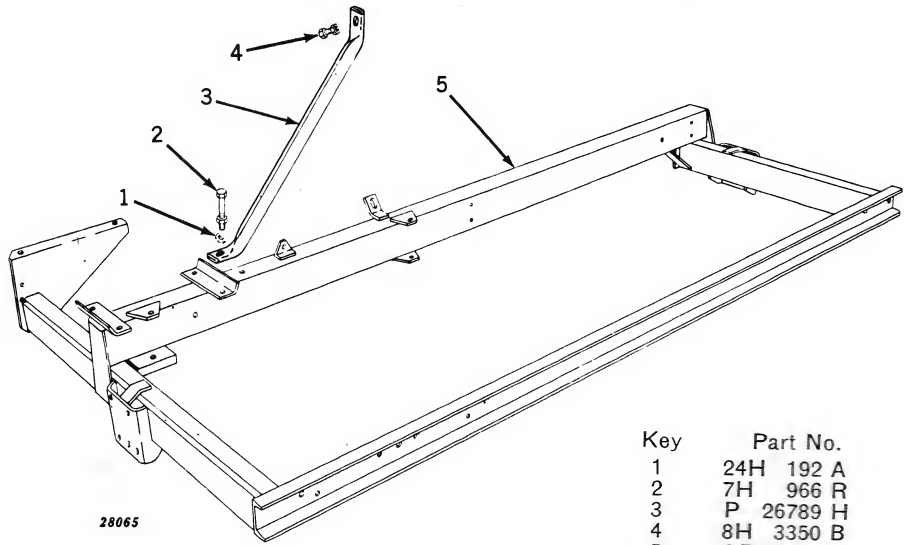
Short descriptions are used only when identification in addition to the part number is needed.

Consult the Index at the beginning of the Parts List to locate the various units. *Do not* order parts by Key Numbers as they are used as a guide for locating the part number. When ordering parts, check with your John Deere dealer's loose leaf Parts Catalog.

INDEX TO PARTS LIST

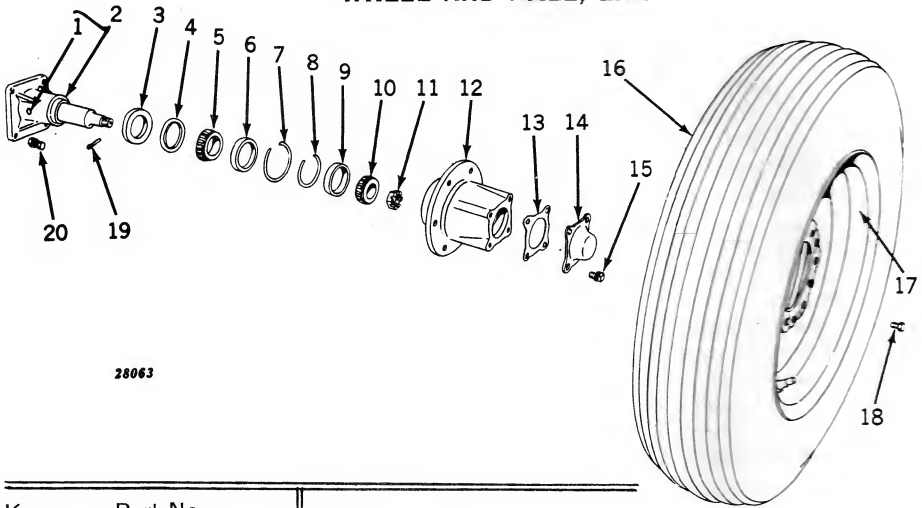
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Key	Part No.
1	24H 192 A
2	7H 966 R
3	P 26789 H
4	8H 3350 B
5	AP 21573 H

WHEEL AND AXLE, L.H.

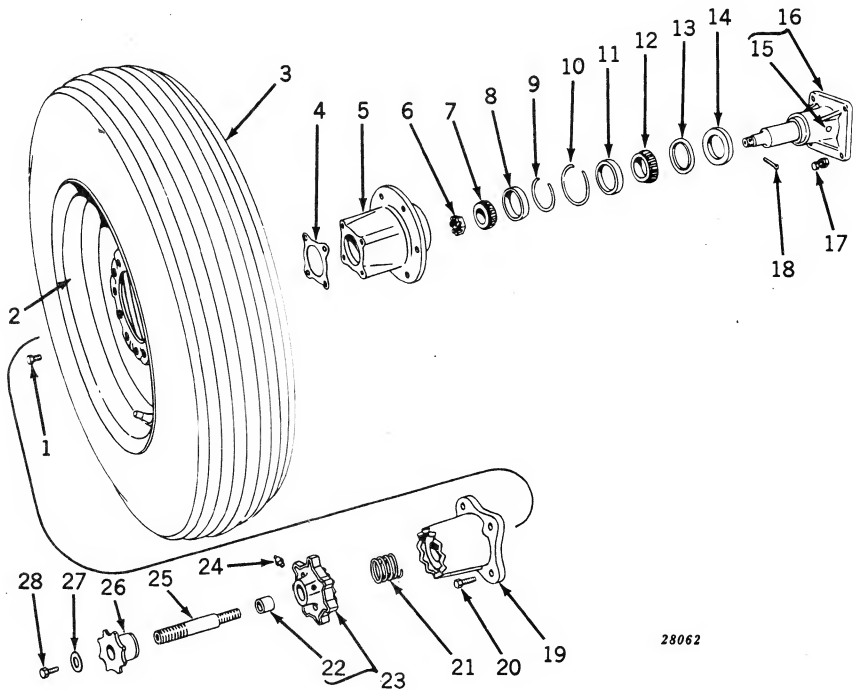


Key	Part No.
1	16H 1752 H
2	PK 1412 H
3	P 45468 H
4	P 45312 H
5	JD 8174 H
6	JD 8219 H
7	P 45313 H
8	P 42669 H
9	JD 7449 D
10	JD 8118 H
11	P 43364 H
12	PK 1414 H

Key	Part No.
13	P 29007 H
14	P 29012 H
15	AP 17987 H
16
17	JD 1986 H
18	JD 19 R
19	11H 45 R
20	(19H 462 N
	(19H 472 N
	(14H 259 R

Tire and Tube, 7.50" x 16"

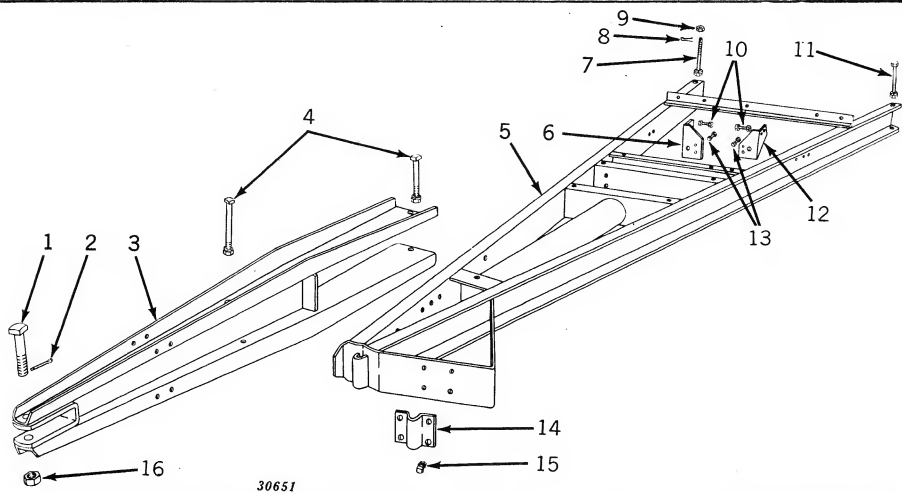
Screw, Cap, 1/2" x 1-1/2"
Screw, Cap, 1/2" x 1-3/4"
Nut, Hex., 1/2"



28062

Key	Part No.
1	JD 19 R
2	JD 1986 H
3 Tire and Tube, 7.50" x 16"
4	P 29007 H
5	PK 1414 H
6	P 43364 H
7	JD 8118 H
8	JD 7449 D
9	P 42669 H
10	P 45313 H
11	JD 8219 H
12	JD 8174 H
13	P 45312 H
14	P 45468 H
15	16H 1752 H

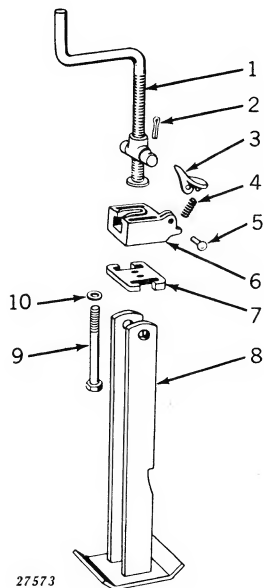
Key	Part No.
16	PK 1412 H
17	19H 462 N Screw, Cap, 1/2" x 1-1/2"
	19H 472 N Screw Cap, 1/2" x 1-3/4"
	14H 259 R Nut, Hex., 1/2"
18	11H 45 R
19	PK 1413 H
20	AP 17989 H
21	P 26323 H
22	P 26460 H
23	P 2854 H
24	JD 7759
25	P 31925 H
26	P 2309 H
27	24H 161 A
28	AP 17987 H



30651

Key	Part No.
1	P 4081 H
2	11H 84 R
3	AP 21510 H
4	8H 2548 N
5	AP 21615 H
6	P 45302 H
7	P 46079 H
8	11H 41 R
9	14H 259 R
10	19H 1056 H Screw, Cap, 7/16" x 1"
	19H 337 N Screw, Cap, 7/16" x 1-1/4"
	19H 1166 H Screw, Cap, 7/16" x 1-1/2"
	14H 257 R Nut, Hex., 7/16"
11	19H 1183 R Screw, Cap, 1/2" x 5-1/2"
	14H 259 R Nut, Hex., 1/2"

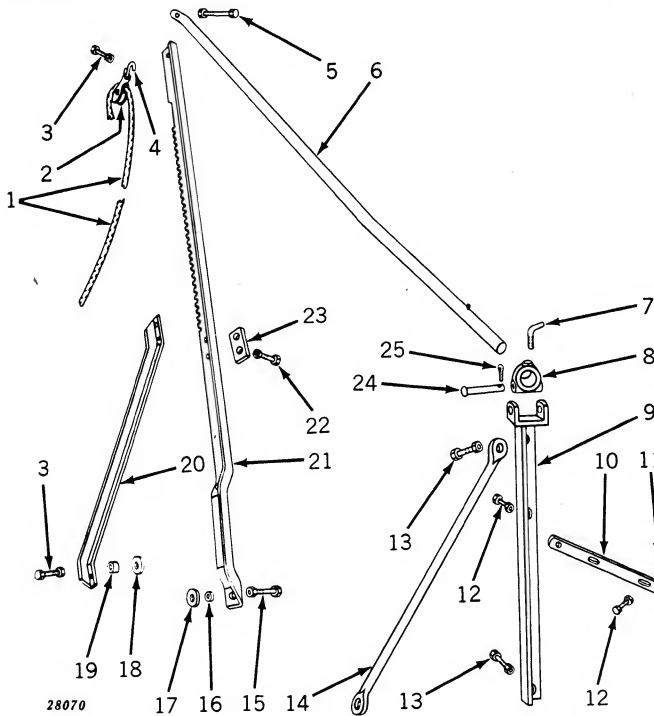
Key	Part No.
12	(P 45273 H (Power Drive) P 45303 H (Engine))
13	19H 1100 H Screw, Cap, 3/8" x 1-3/8"
	14H 255 R Nut, Hex., 3/8"
	19H 1056 H Screw, Cap, 7/16" x 1"
	14H 257 R Nut, Hex., 7/16"
14	P 45819 H 7-Ft. Platform
15	7H 1026 H
16	14H 110 A



TRACTOR HITCH JACK (ENGINE DRIVE)

Key	Part No.
1	PK 1405 H
2	11H 119 H
3	BP 1499 E
4	L 222 C
5	16H 1127 A
6	PK 1403 H
7	PK 1404 H
8	AP 21588 H
9	8H 2777 H
10	12H 13 R

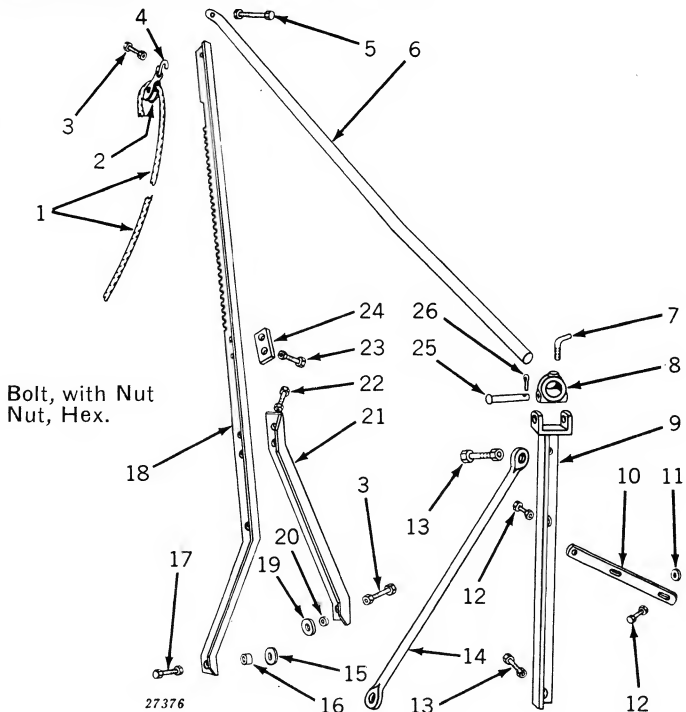
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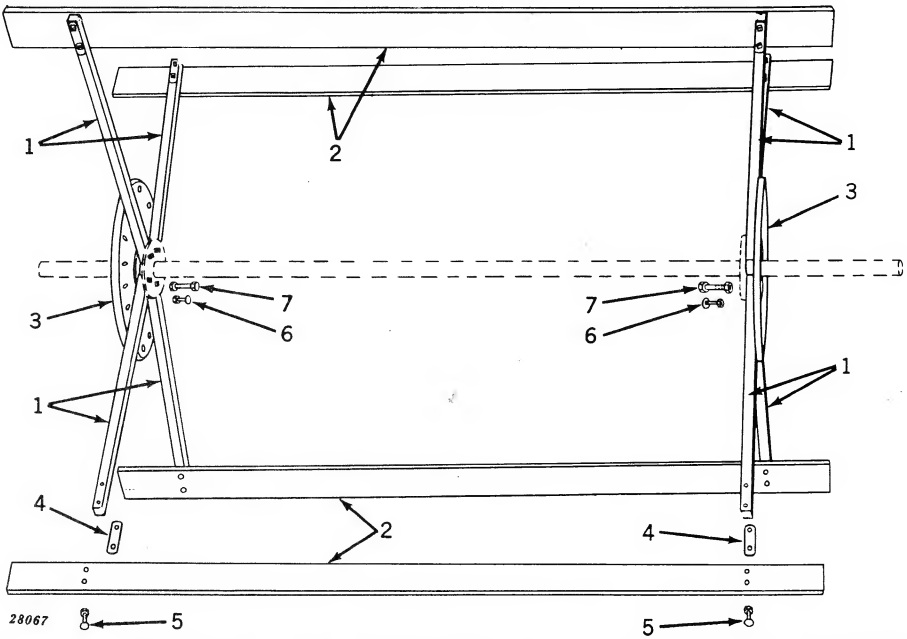


Key	Part No.
1	P 32159 H
2	JD 14 A
3	7H 1026 H
4	P 37067 H
5	7H 396 H
6	P 37477 H
7	P 28709 H
8	PK 444 H
9	AP 21652 H
10	P 45385 H
11	24H 149 H
12	7H 159 H
13	7H 332 H
14	P 45384 H
15	7H 570 M
16	28H 172 H
17	24H 178 A
18	24H 161 A
19	P 26770 H
20	P 37479 H
21	P 37480 H
22	7H 335 R
23	J 37496 H
24	J 3525 H
25	11H 38 R

REEL RACK AND TILTING PIPE, R.H., 7-FOOT

Key	Part No.
1	P 32159 H
2	JD 14 A
3	7H 1026 H
4	P 37067 H
5	7H 396 H
6	P 37477 H
7	P 28709 H
8	PK 444 H
9	AP 21652 H
10	P 45385 H
11	24H 149 H
12	7H 159 H
13	7H 332 H
14	P 45384 H
15	24H 178 A
16	28H 172 H
17	7H 580 H
18	14H 257 R
19	P 44739 H
20	P 26770 H
21	P 44731 H
22	7H 164 H
23	7H 335 R
24	P 37496 H
25	J 3525 H
26	11H 38 R



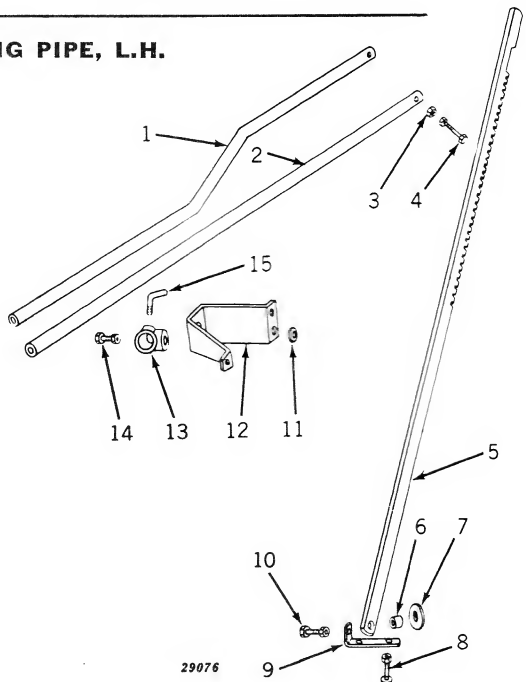


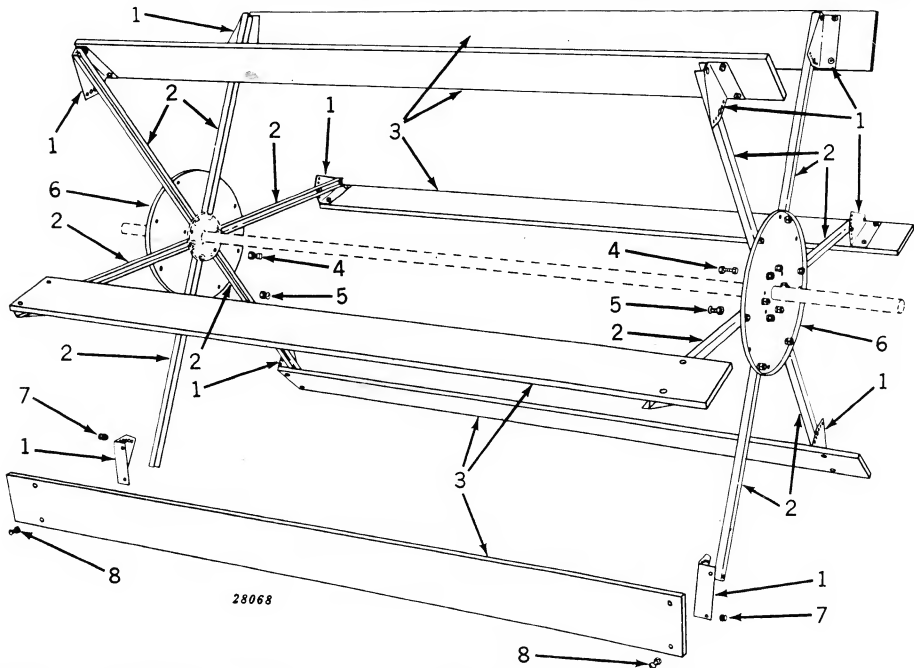
Key	Part No.
1	P 44730 H
2	P 26834 H
3	P 32384 H
4	P 28017 H

Key	Part No.
5	2H 58 H
6	13H 605 H
7	7H 200 H

REEL RACK AND TILTING PIPE, L.H.

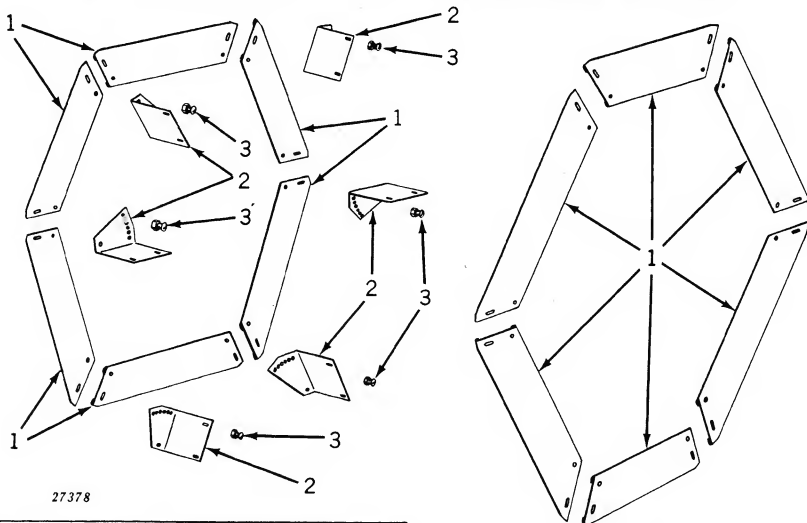
Key	Part No.
1	P 44732 H 7-Ft.
2	P 37476 H 6-Ft.
3	14H 255 R
4	7H 396 H
5	P 37058 H
6	28H 172 H
7	24H 178 A
8	2H 322 R
9	P 37494 H
10	7H 570 M
11	24H 149 H
12	P 40990 H
13	PK 447 H
14	7H 169 H
15	P 28709 H



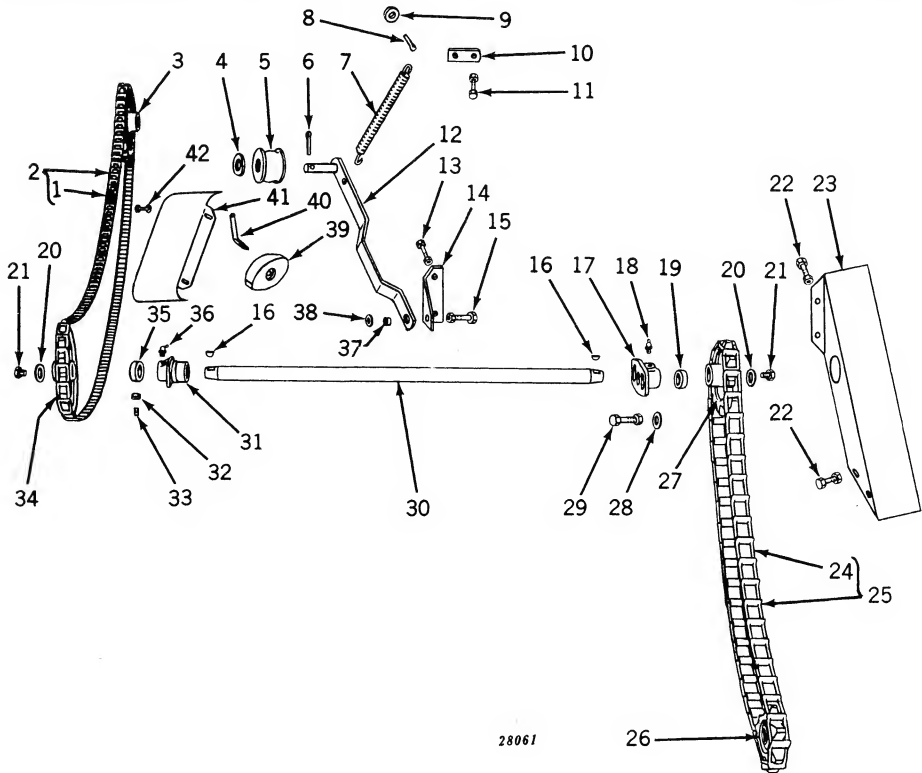


Key	Part No.	Key	Part No.
1	P 44736 H	5	13H 605 H
2	P 44730 H	6	P 32384 H
3	P 44738 H	7	13H 594 H
4	7H 200 H	8	2H 67 H

REEL END SHIELDS, 7-FOOT PLATFORM (SPECIAL)

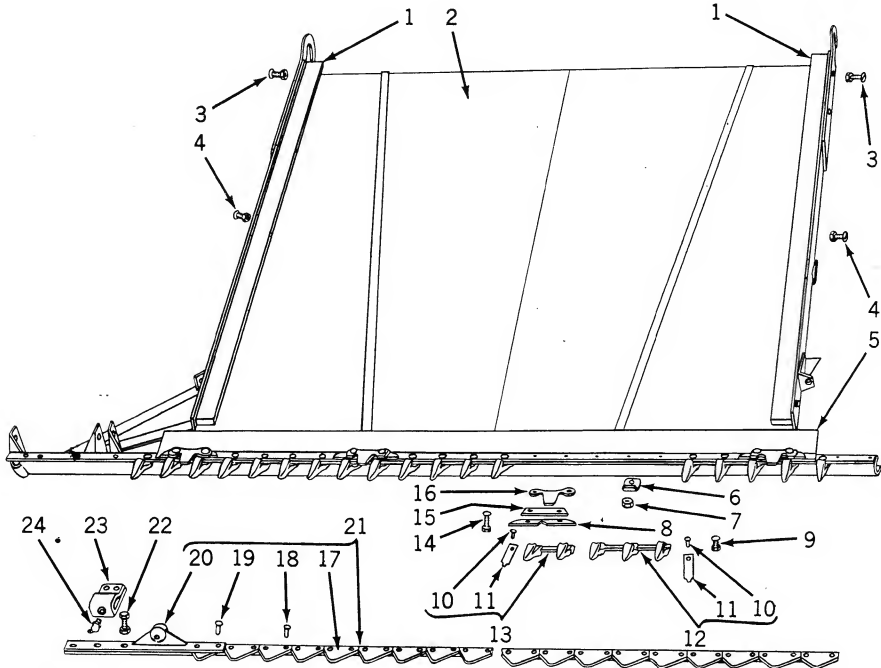


Key	Part No.
1	P 45565 H
2	P 45564 H
3	13H 594 H



Key	Part No.
1	32
2	(AP 10397 H AP 15657 H (Feed Rolls) P 2335 H
3	24H 224 H
4	PK 1422 H
5	11H 43 R
6	P 26286 H
7	11H 79 H (Grain Tank)
8	24H 136 H (Grain Tank)
9	P 45465 H (Sacker)
10	7H 63 H (Sacker)
11	AP 21654 H
12	7H 159 H (Sacker)
13	P 45410 H (Sacker)
14	7H 570 M
15	26H 14 R
16	P 2465 H
17	JD 7759 (Grain Tank)
18	JD 7778 (Sacker)
19	28H 457 D (Grain Tank)
	28H 473 E (Sacker)
	24H 259 D (Sacker)
20	24H 452 H
21	19H 207 T

Key	Part No.
22	7H 152 H (Sacker)
23	P 45376 H (Sacker)
24	45
25	(AP 10396 H (Grain Tank) AP 16340 H (Sacker)
26	P 2854 H
27	(PK 389 H (9 Teeth) (Regular) P 2943 H (7 Teeth) (Special) PK 2 H (12 Teeth) (Special)
28	24H 161 A
29	7H 1026 H
30	P 45864 H
31	PK 199 H
32	14H 340 H (Sacker)
33	22H 38 H (Sacker)
34	P 2913 H
35	P 28769 H (Sacker)
36	JD 7778
37	28H 172 H
38	24H 178 A
39	J 16435 H Y112-618 Engine)
40	P 45760 H Y112-618 Engine)
41	P 45578 H HA 92 Engine)
42	13H 601 H HA 92 Engine)

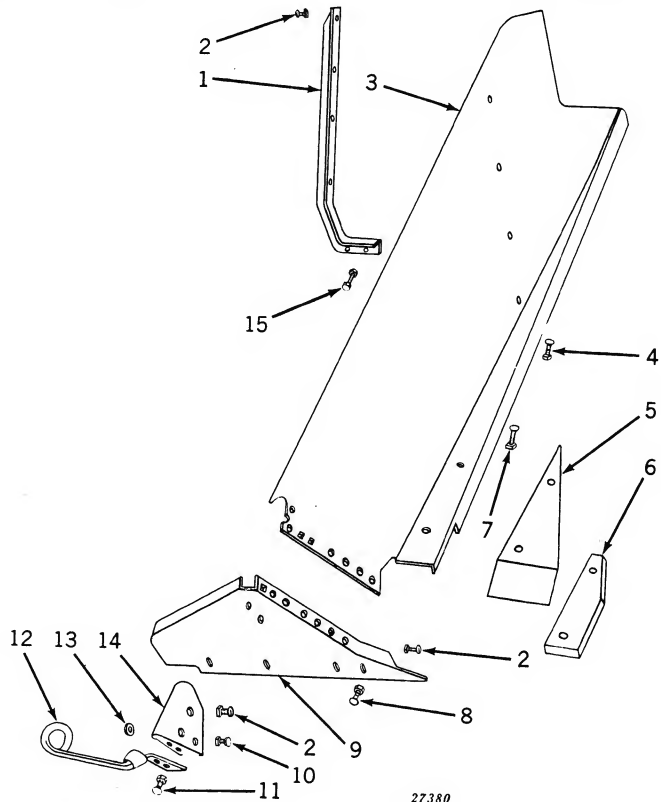


27379

Key	Part No.
1	P 33941 H
2	(AP 15013 H 6-Ft. AP 21196 H 7-Ft.)
3	13H 232 H
4	13H 593 H
5	(P 43584 H 6-Ft. AP 21157 H 7-Ft.)
6	P 35402 H
7	14H 253 R
8	P 27038 H
9	(2H 322 R 3/8" x 1-1/4" 2H 306 R 3/8" x 1")
10	P 5645 H
11	(P 26610 H Plate, Pointed Lip P 26613 H Plate, Open Lipless)
12	(P 2342 H Pointed Lip P 2345 H Open Lipless PK 79 H 5-Tine)

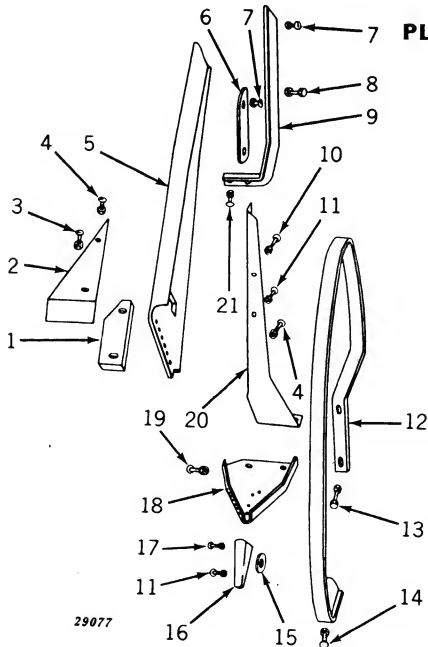
Key	Part No.
13	(P 2343 H Pointed Lip P 2304 H Open Lipless PK 80 H 5-Tine)
14	2H 334 H
15	P 33484 H
16	PK 24 H
17	(Z 5654 H Overserrated Z 5571 H Smooth Z 7029 H Underserrated)
18	Z 5086 H
19	Z 5874 H
20	AP 15240 H
21	(AP 15273 H Overserrated, 6-Ft. AP 15275 H Underserrated, 6-Ft. AP 17271 H Smooth, 6-FT. AP 21191 H Overserrated, 7-Ft.)
22	7H 335 R
23	P 2663 H
24	JD 7760

Key	Part No.
1	P 45713 H
2	13H 593 H
3	AP 21536 H
4	13H 603 H
5	P 30257 H
6	P 30259 H
7	13H 604 H
8	2H 306 R
9	P 35039 H
10	13H 596 H
11	2H 156 H
12	AP 22003 H
13	24H 35 H
14	P 29189 H
15	7H 58 H



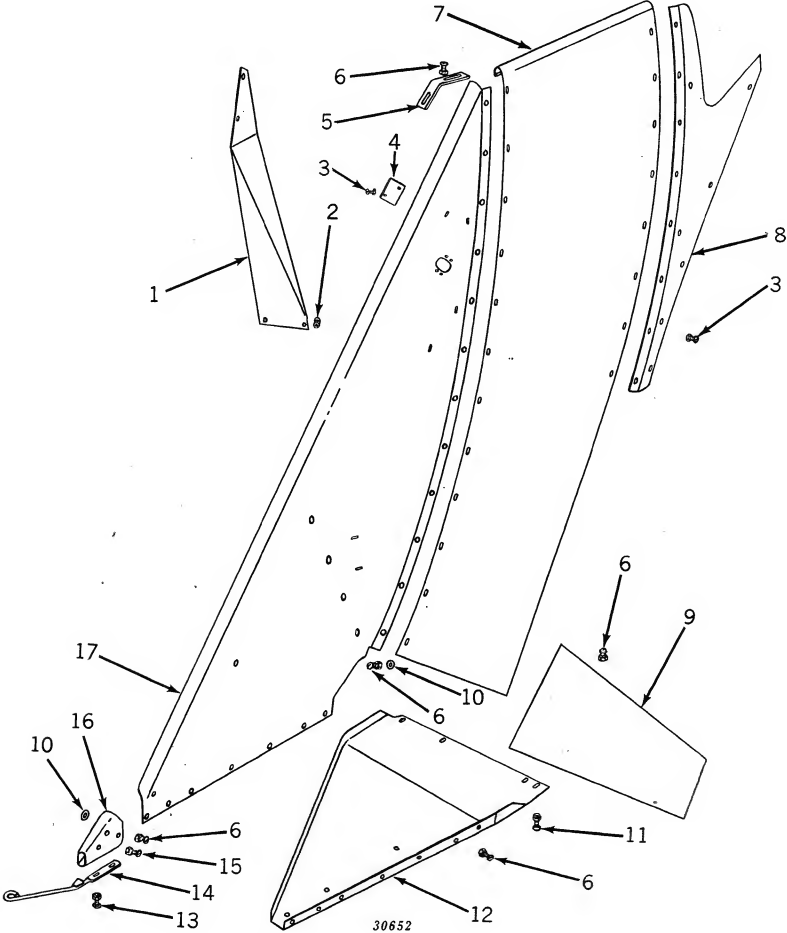
27380

PLATFORM SIDE SHEET, L.H., 6-FOOT

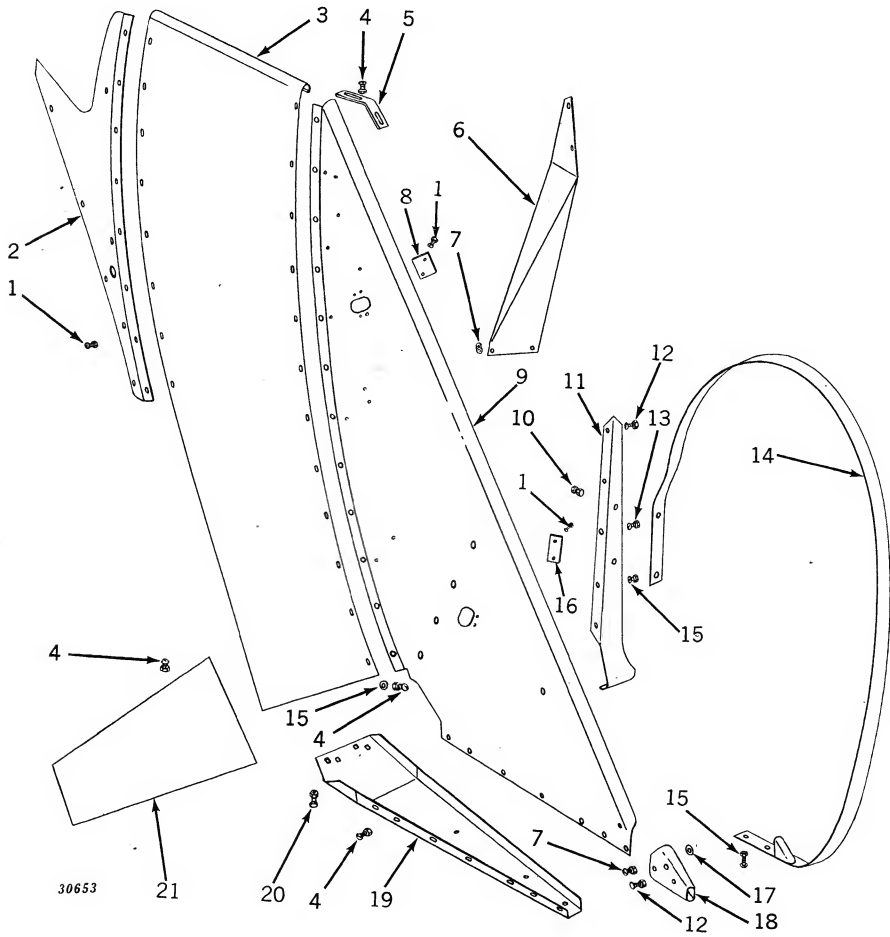


Key	Part No.
1	P 30259 H
2	P 30258 H
3	13H 604 H
4	13H 603 H
5	AP 21537 H
6	P 35246 H
7	13H 594 H
8	7H 70 H
9	P 29020 H
10	13H 312 H
11	13H 596 H
12	AP 11675 H
13	7H 155 H
14	2H 156 H
15	24H 35 H
16	P 29190 H
17	13H 593 H
18	P 32232 H
19	13H 606 H
20	P 30113 H
21	2H 58 H

29077

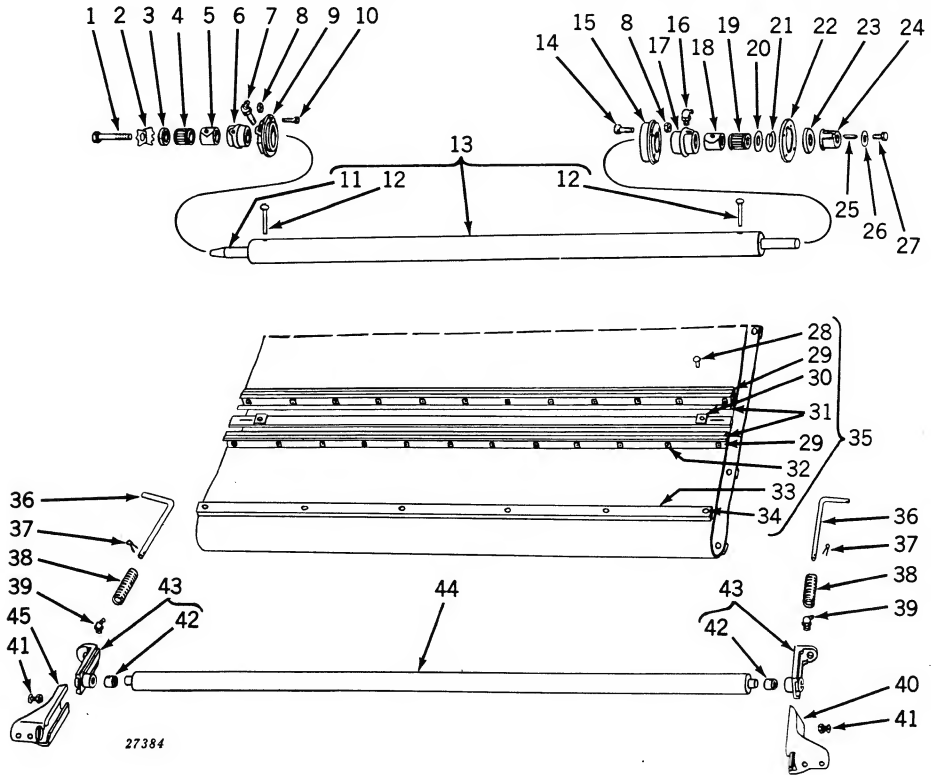


Key	Part No.	Key	Part No.
1	P 44745 H	10	24H 35 H
2	13H 593 H	11	2H 306 R
3	13H 600 H	12	P 30539 H
4	P 46184 H	13	2H 156 H
5	P 44757 H	14	AP 22003 H
6	13H 594 H	15	13H 596 H
7	P 44751 H	16	P 29189 H
8	AP 21153 H	17	P 46154 H
9	AP 22210 H		



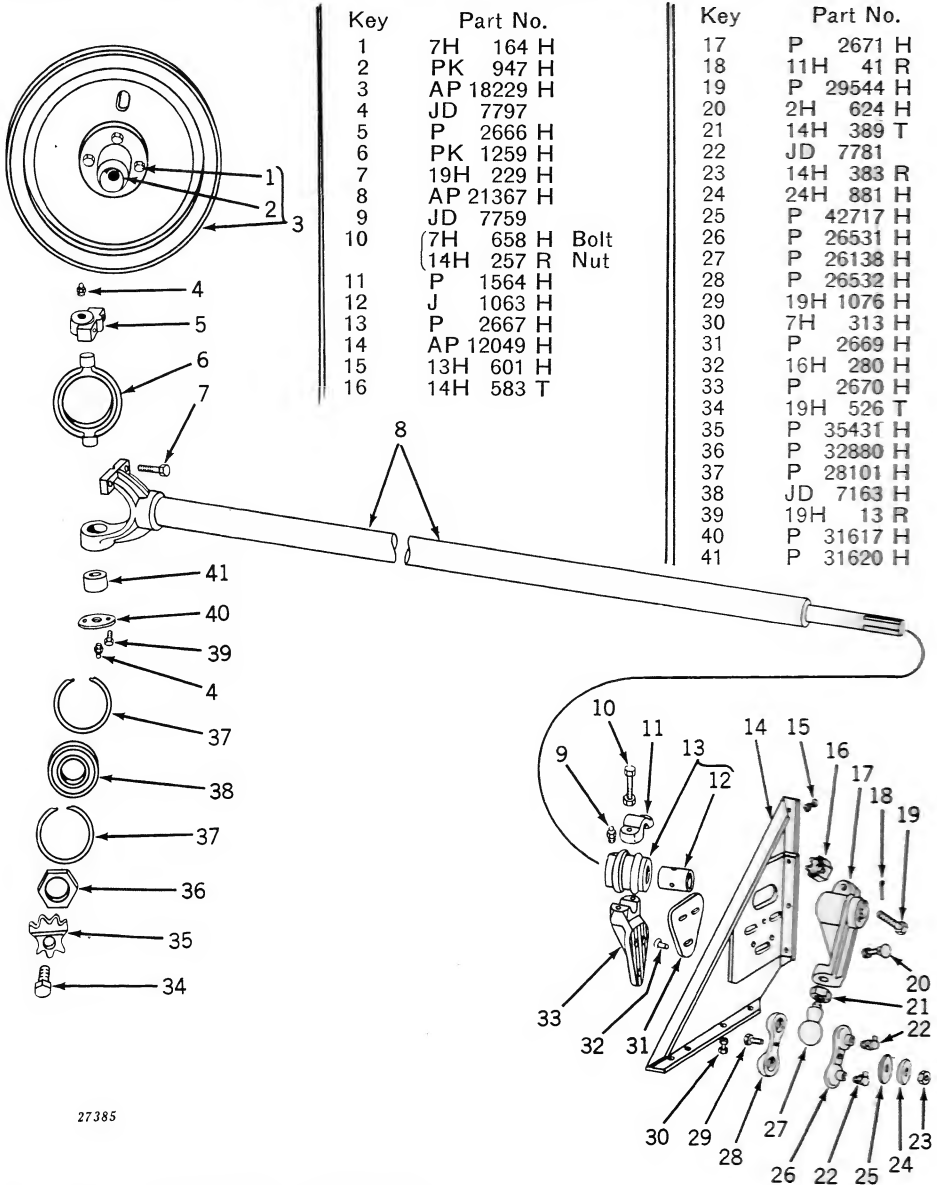
Key	Part No.
1	13H 600 H
2	AP 21154 H
3	P 44752 H
4	13H 594 H
5	P 44757 H
6	P 44746 H
7	13H 593 H
8	P 46184 H
9	P 46155 H
10	7H 155 H
11	P 30113 H

Key	Part No.
12	13H 596 H
13	13H 312 H
14	AP 11625 H
15	2H 156 H
16	P 46185 H
17	24H 35 H
18	P 29190 H
19	P 44758 H
20	2H 306 R
21	AP 22211 H



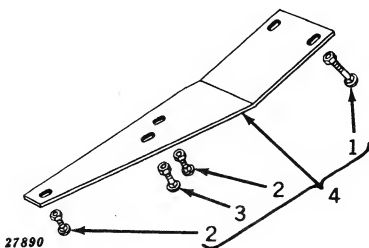
Key	Part No.
1	19H 526 T
2	P 35431 H
3	P 28599 H
4	JD 7925 H
5	JD 8302 H
6	P 2540 H
7	JD 7783
8	14H 251 R
9	P 2539 H
10	19H 996 H
11	P 41546 H
12	16H 1166 A
13	AP 15243 H
14	19H 997 H
15	PK 230 H
16	JD 7781
17	P 2607 H
18	JD 7452 H
19	JD 7922 H
20	24H 839 H
21	P 30298 H
22	P 35326 H
23	P 35324 H
24	PK 232 H

Key	Part No.
25	J 8567 H
26	24H 789 H
27	AP 17988 H
28	P 27712 H
29	P 28214 H
30	AP 11785 H
31	P 29718 H
32	(13H 100 H Bolt P 28311 H Washer
33	P 32983 H
34	AHZ1314 H
35	AP 21490 H
36	P 32578 H
37	11H 80 R
38	B 5665 H
39	JD 7788
40	P 2689 H
41	(13H 601 H 1/4" x 3/4" 13H 604 H 1/4" x 1-1/4"
42	P 26682 H
43	AP 12181 H
44	AP 13917 H
45	P 2688 H



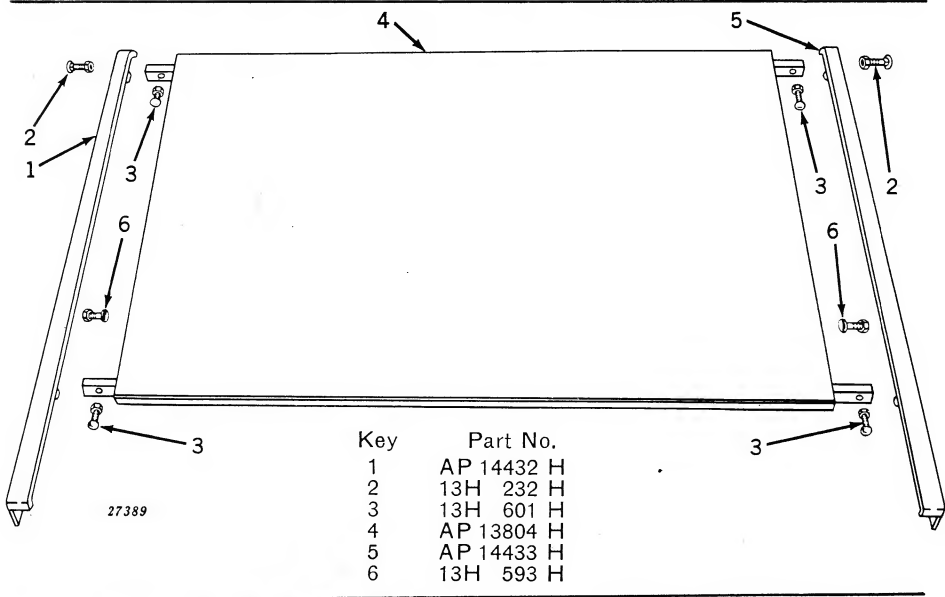
27385

**WEARING PLATE FOR PLATFORM
RUNNER POINT, L.H. (LESPEDIZA)**

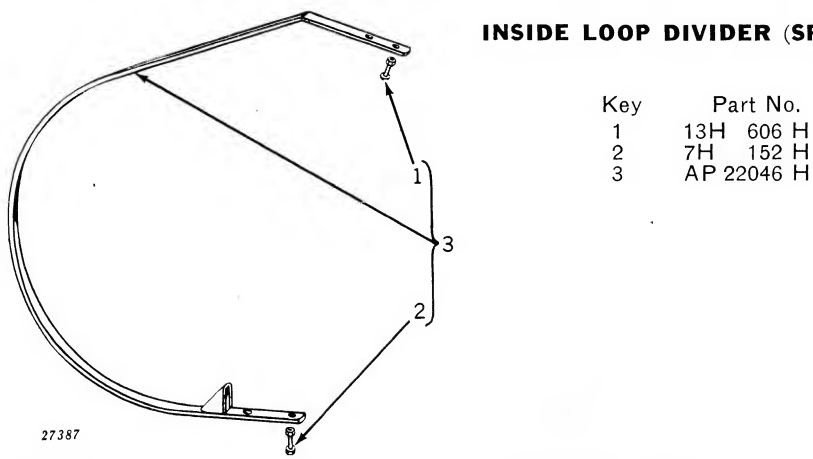


27890

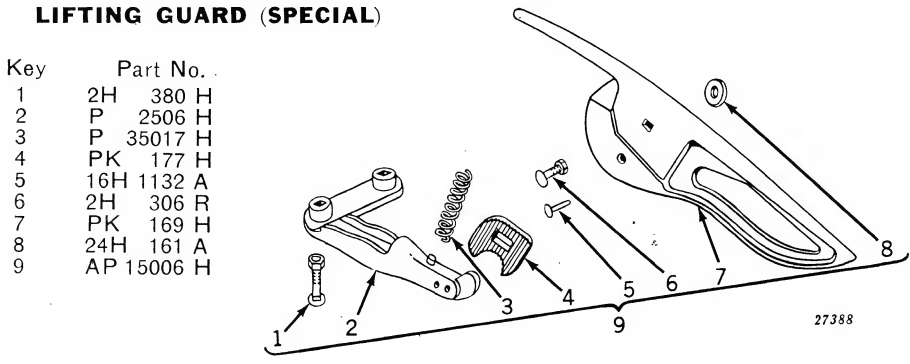
SHIELD FOR PLATFORM CANVAS (SPECIAL)



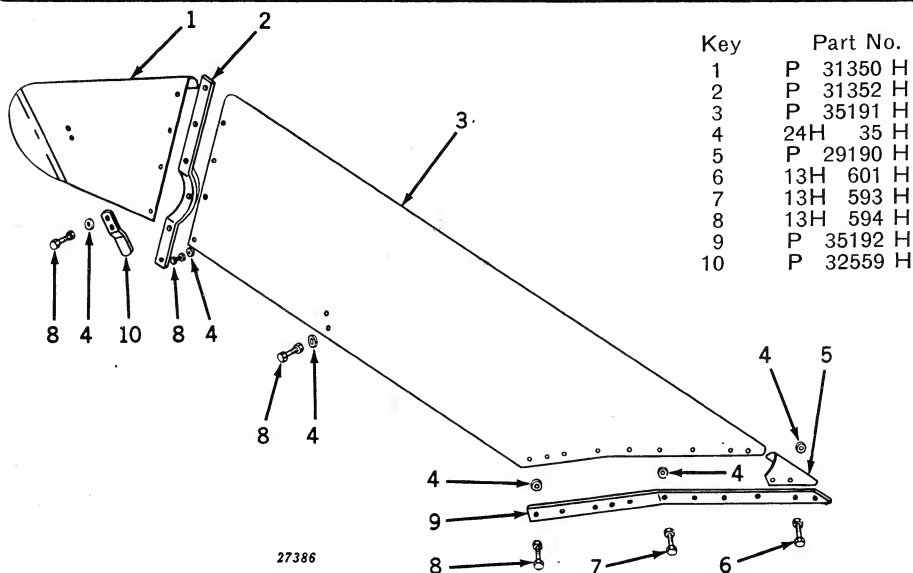
INSIDE LOOP DIVIDER (SPECIAL)



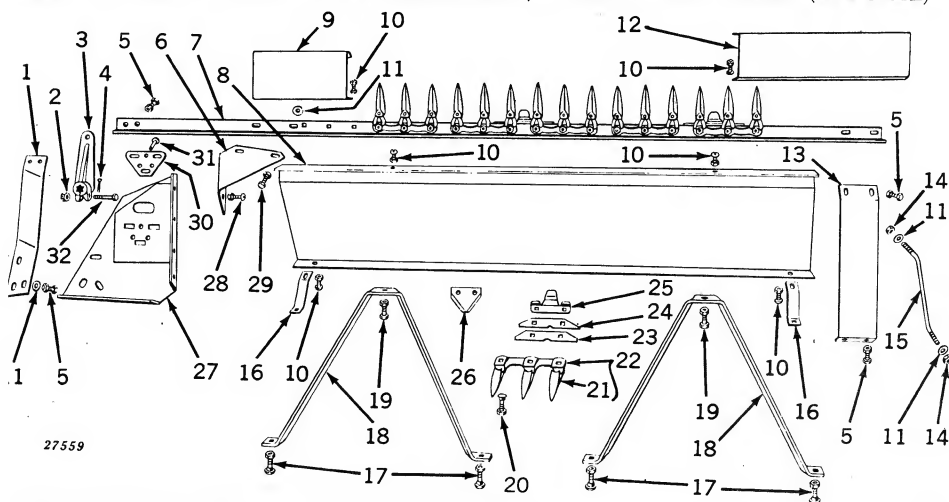
LIFTING GUARD (SPECIAL)



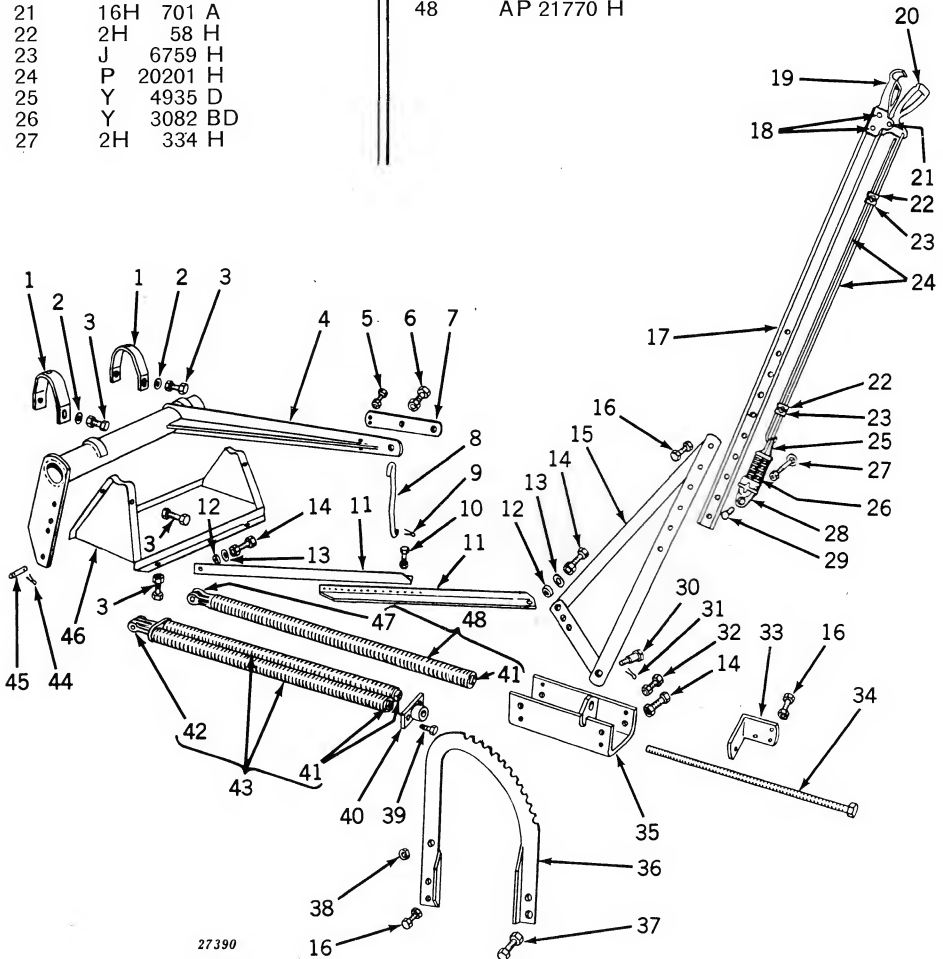
EXTENSION FOR OUTSIDE DIVIDER, 6-FOOT PLATFORM (SPECIAL)

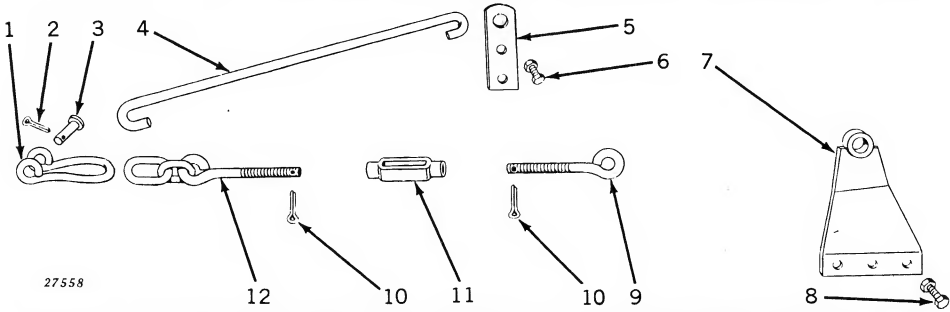


KAFFIR CORN HEADING ATTACHMENT, 6-FOOT PLATFORM (SPECIAL)

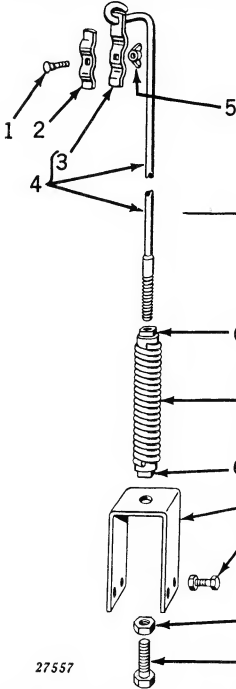


Key	Part No.	Key	Part No.
1	P 45242 H	28	Y 4620 BD
2	24H 192 A	29	16H 1343 A
3	7H 733 H	30	P 31999 H
4	AP 21660 H	31	11H 39 R
5	7H 345 H (Feed Rolls)	32	7H 1026 H
6	8H 925 B (Feed Rolls)	33	P 45403 H (Powr-Trol Lift)
7	P 45661 H (Feed Rolls)	34	P 45428 H
8	P 32631 H	35	AP 21668 H
9	11H 109 B	36	AP 12418 H
10	7H 159 H	37	7H 738 H
11	P 45407 H	38	14H 257 R
12	P 45406 H	39	8H 556 H Belt Pickup and Feed Rolls)
13	24H 186 H	40	AP 12992 H Belt Pickup and Feed Rolls)
14	7H 733 H	41	P 2936 H
15	AP 21669 H	42	PK 1420 H Belt Pickup and Feed Rolls)
16	7H 345 H	43	AP 21769 H Belt Pickup and Feed Rolls)
17	P 28810 H	44	11H 80 R
18	16H 717 H	45	P 32778 H
19	P 2582 H	46	AP 21590 H
20	P 2810 H	47	PK 1421 H
21	16H 701 A	48	AP 21770 H
22	2H 58 H		
23	J 6759 H		
24	P 20201 H		
25	Y 4935 D		
26	Y 3082 BD		
27	2H 334 H		





27558



27557

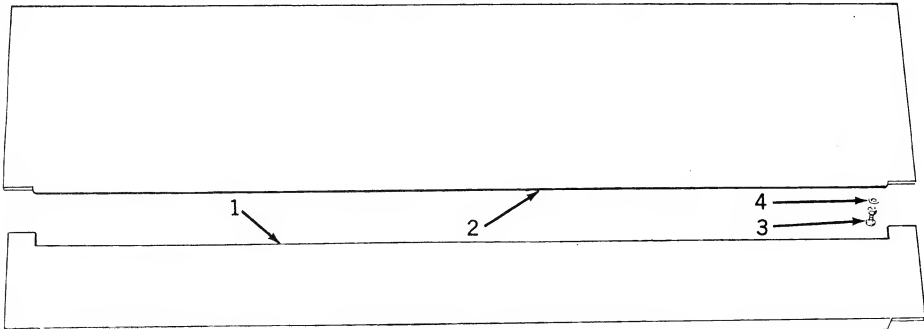
Key	Part No.
1	P 40577 H
2	11H 80 R
3	P 32778 H
4	P 40550 H
5	P 45398 H
6	8H 529 D

Key	Part No.
7	AP 21659 H
8	8H 2531 D
9	P 45397 H
10	11H 111 B
11	P 15801 H
12	AP 21658 H

POWR-TROL HOSE SUPPORT

Key	Part No.
1	2H 301 H
2	Z 9046 H
3	Z 9045 H
4	AP 22032 H
5	14H 704 H
6	Z 558 H
7	AP 21639 H
8	7H 1026 H (Engine Drive)
9	AP 22044 H (Engine Drive)
10	14H 259 R
11	8H 2587 N

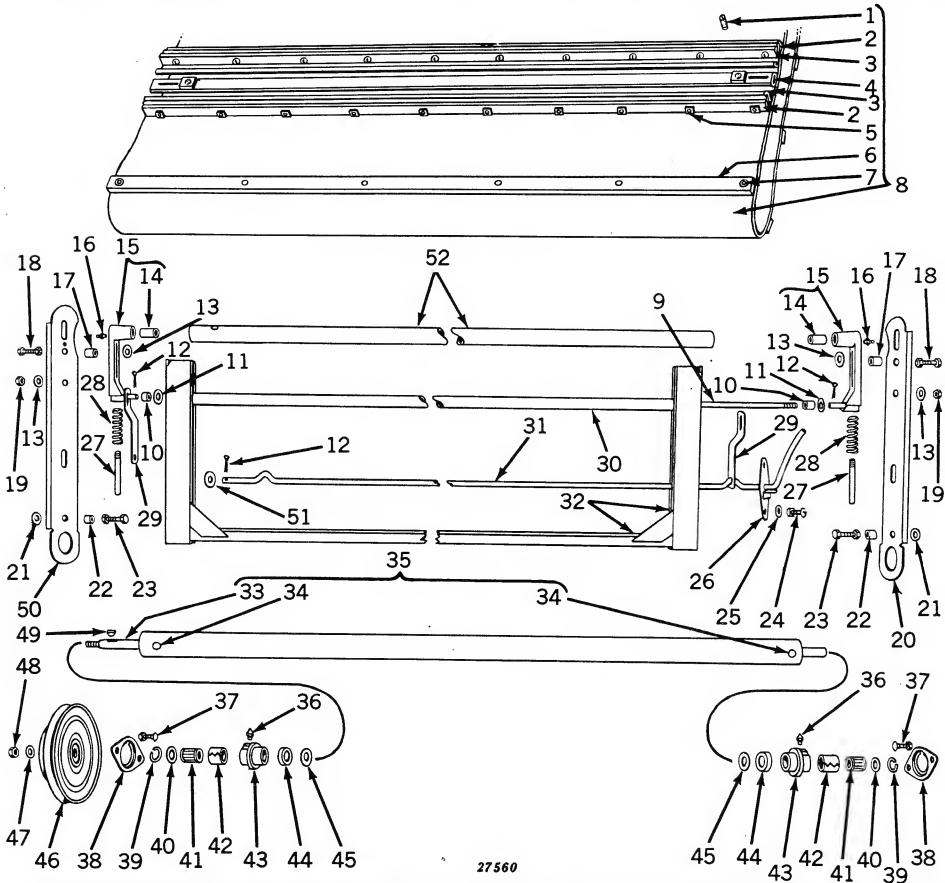
SHIELDS FOR FEEDER CANVAS (SPECIAL)



27561

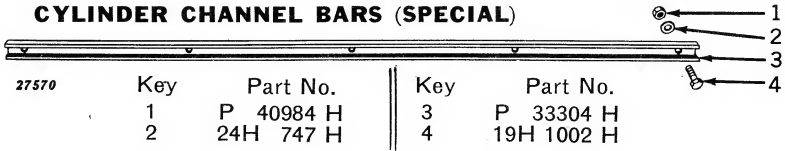
Key	Part No.
1	P 33707 H
2	AP 14247 H

Key	Part No.
3	13H 603 H
4	24H 139 A

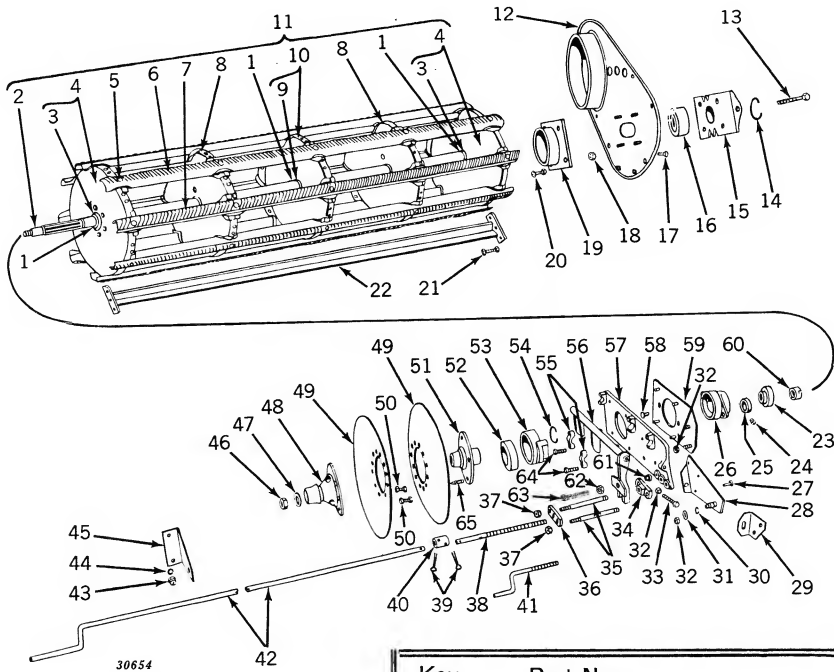


Key	Part No.	Key	Part No.	Key	Part No.
1	P 27712 H	18	7H 183 H	35	AP 12811 H
2	P 28214 H	19	14H 253 R	36	JD 7759
3	P 29718 H	20	P 29983 H	37	2H 294 H
4	AP 11785 H	21	24H 143 R	38	P 28675 H
5	13H 100 H Bolt Washer	22	28H 88 H	39	P 29861 H
6	P 28311 H	23	7H 174 H	40	24H 809 H
7	P 32983 H	24	13H 594 H	41	JD 7924 H
8	AHZ1314 H	25	24H 139 A	42	JD 8301 H
9	AP 21488 H	26	AP 12128 H	43	P 2608 H
10	P 32935 H	27	P 28746 H	44	P 30140 H
11	28H 85 D	28	P 28584 H	45	24H 139 A
12	24H 387 H	29	P 30436 H	46	AP 13655 H
13	11H 80 R	30	AP 15304 H	47	24H 178 A
14	24H 149 H	31	P 30437 H	48	14H 257 R
15	P 22953 H	32	AP 13875 H	49	26H 14 R
16	P 2683 H	33	P 41547 H	50	P 29982 H
17	JD 7797	34	16H 1166 A	51	24H 192 A
	1C 2686 H			52	AP 13914 H

CYLINDER CHANNEL BARS (SPECIAL)

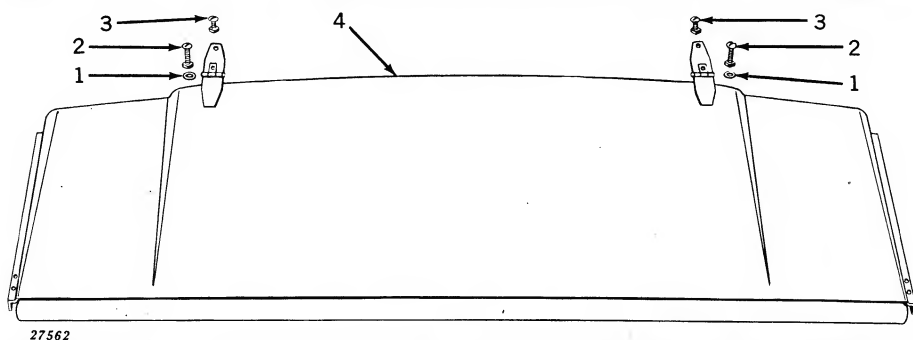


Key	Part No.	Key	Part No.
1	P 40984 H	3	P 33304 H
2	24H 747 H	4	19H 1002 H



Key	Part No.
1	P 26319 H
2	P 45232 H
3	P 2940 H
4	(AP 20177 H Head 16H 677 A Rivet
5	(AP 12930 H P 40984 H
6	AP 19725 H
7	AP 19726 H
8	P 27748 H
9	PK 893 H
10	(AP 20178 H Head 16H 677 A Rivet
11	AP 21704 H
12	AP 22063 H
13	(19H 291 H Screw, Cap 14H 342 A Nut, Hex.
14	P 44477 H
15	PK 1346 H
16	JD 7160 H
17	(AP 17987 H 3/8" x 3/4" AP 17988 H 3/8" x 1"
18	P 35129 H
19	AP 22062 H
20	2H 306 R
21	(7H 319 H 3/8" x 1" 7H 335 R 3/8" x 1-1/4"
22	AP 12149 H
23	AP 20868 H
24	(..... Wrench, Set Screw, 5/32" Screw, Set 5/16" x 5/16"
25	AP 20593 H
26	PK 1345 H
27	16H 677 A

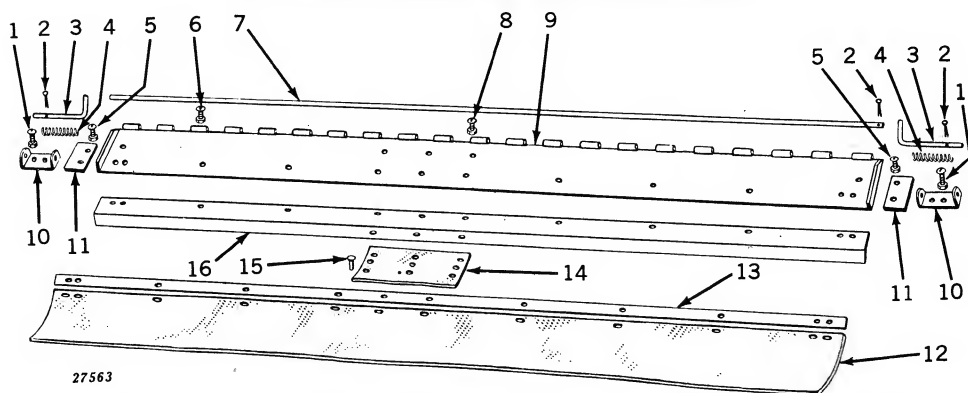
Key	Part No.
28	AP 21347 H
29	P 45009 H (Feed Rolls)
30	P 44483 H
31	24H 161 A
32	14H 255 R
33	19H 1143 H
34	PK 1261 H
35	P 46009 H
36	P 46008 H
37	14H 255 R
38	P 43617 H (Grain Tank)
39	11H 102 M (Grain Tank)
40	P 43618 H (Grain Tank)
41	P 44188 H (Sacking Attachment)
42	P 45393 H (Grain Tank)
43	7H 56 H
44	24H 139 H
45	P 43629 H (Grain Tank)
46	P 45231 H
47	P 18467 H
48	PK 1347 H
49	P 43605 H
50	(21H 697 H Screw, Cap 14H 610 H Nut, Hex.
51	P 44475 H
52	JD 7140 H
53	P 43602 H
54	P 44478 H
55	PK 1390 H
56	AP 22201 H
57	PK 1348 H
58	21H 762 H
59	AP 20869 H
60	P 44866 H
61	P 43631 H
62	14H 342 A
63	P 46083 H
64	19H 230 T
65	JD 7819

DOOR OVER CYLINDER**Key Part No.**

1	24H 139 H
2	13H 604 H
3	13H 594 H

Key Part No.

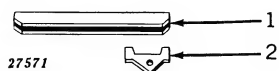
4	(AP 19903 H
	(AP 19904 H (Feed Rolls)

CYLINDER COVER HINGED EXTENSION**Key Part No.**

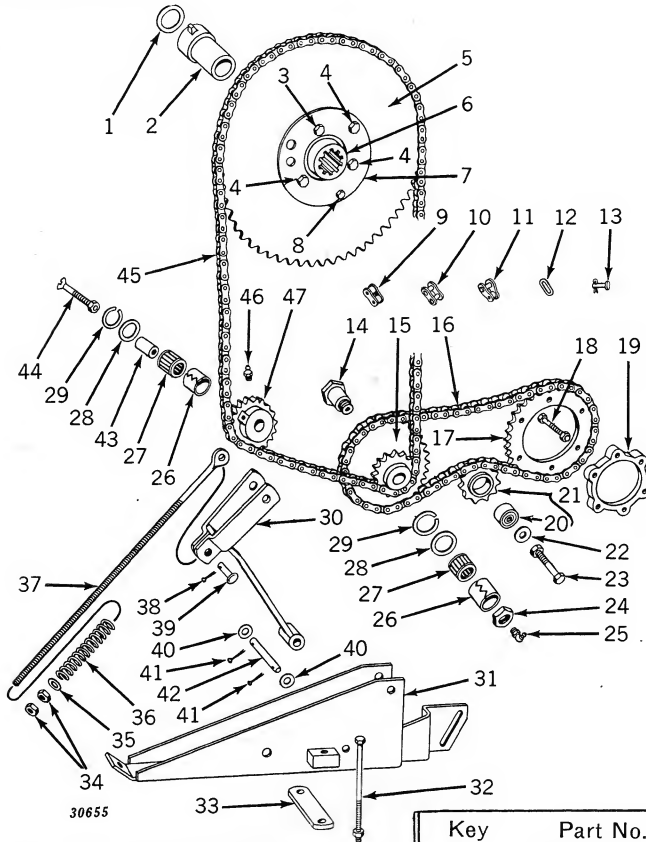
1	(13H 601 H
	(13H 603 H (Feed Rolls)
2	11H 39 R
3	P 30216 H
4	HZ 7008 H
5	13H 594 H (Feed Rolls)
6	13H 593 H
7	P 43619 H
8	13H 594 H
9	(P 35362 H
	(P 36722 H (Feed Rolls)

Key Part No.

10	P 30171 H
11	P 31335 H (Feed Rolls)
12	P 36725 H
13	P 36724 H
14	(P 45202 H
	(P 31337 H (Feed Rolls)
15	16H 633 H
16	(P 45201 H
	(P 36723 H (Feed Rolls)

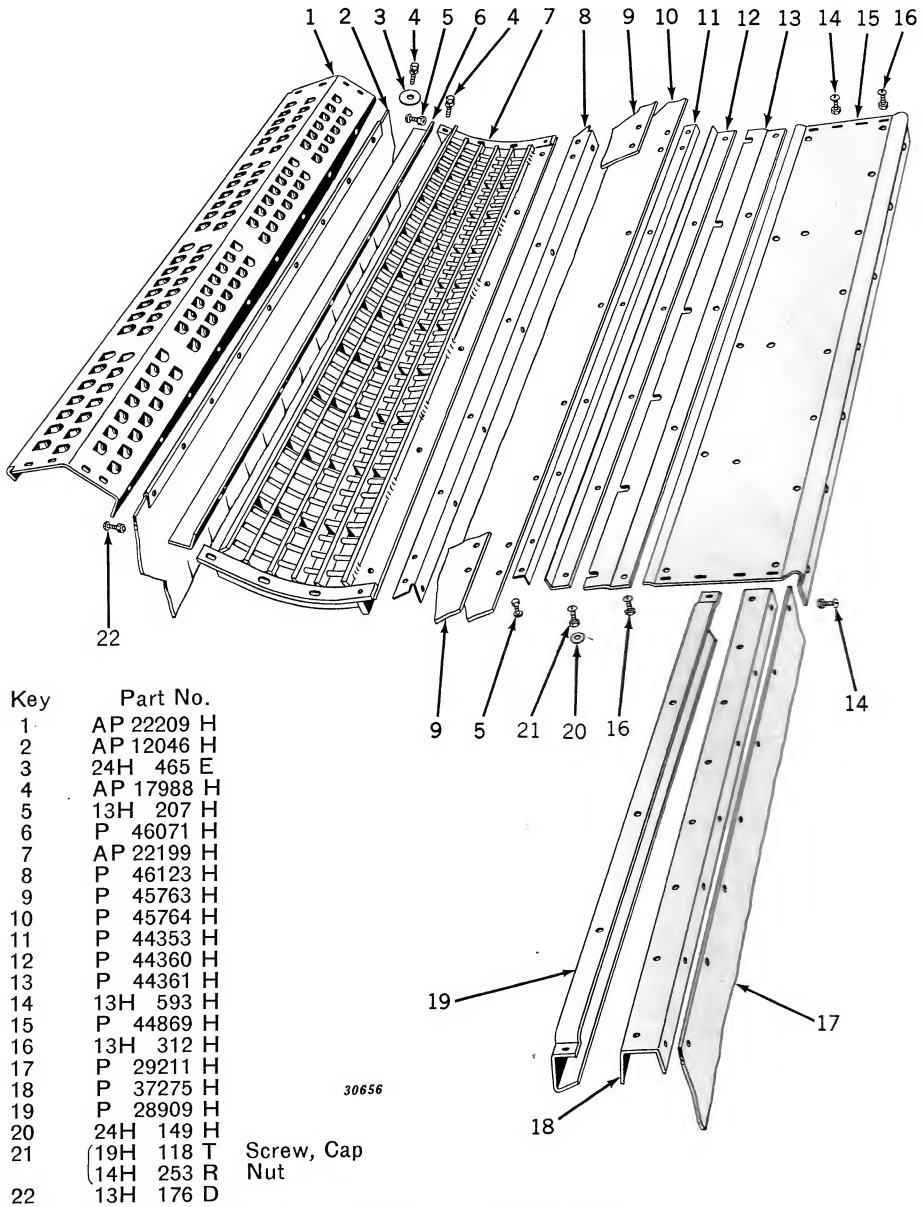
CYLINDER BAR FILLERS (SPECIAL)**Key Part No.**

1	(P 33460 H
	(P 33461 H
2	P 33462 H

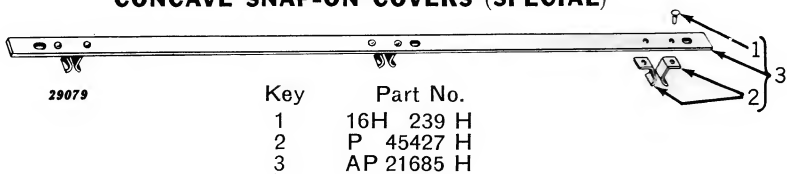


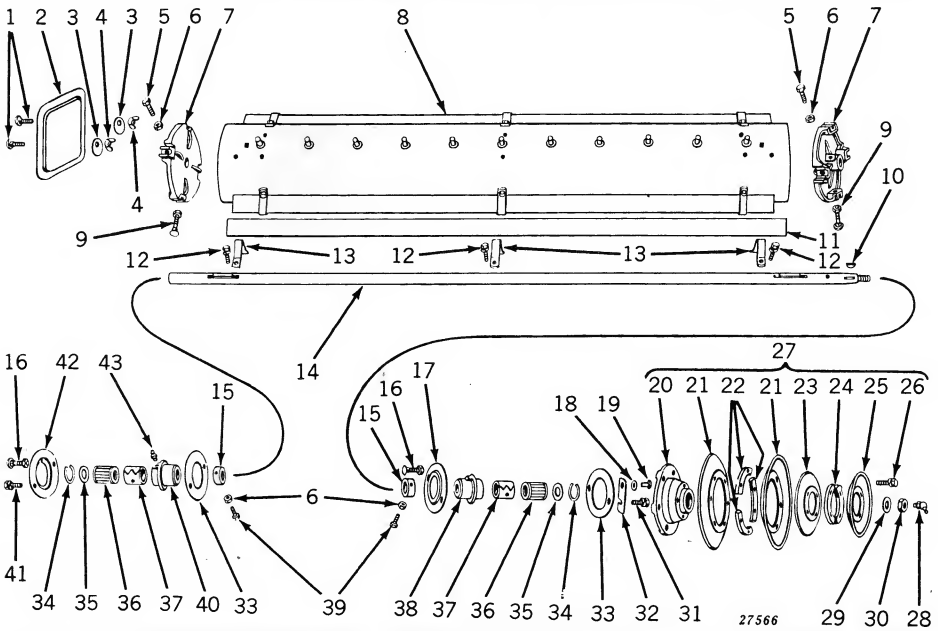
Key	Part No.	
1	24H 981 N	
2	PK 1384 H	
3	19H 118 T	
4	7H 1127 N	
5	P 44934 H (66 Teeth)	
	P 44935 H (46 Teeth)	
	P 44936 H (33 Teeth)	
6	PK 1383 H	
7	P 44933 H	
8	7H 1197 N	
9	P 20350 H	
10	P 20351 H	
11	P 20352 H	
12	P 21010 H	
13	P 29361 H	Pin
	11H 2 H	Pin, Cotter
14	P 39248 H	
15	AP 17305 H	
16	AP 17309 H	
17	P 39258 H	
18	8H 116 H	
19	PK 688 H	
20	JD 7172 H	
21	J 1269 H	
22	24H 454 R	

Key	Part No.	
23	(19H 239 T	Screw, Cap
	(14H 255 R	Nut, Hex.
24	14H 353 A	
25	JD 7760	
26	JD 7450 H	
27	JD 7931 H	
28	P 36424 H	
29	P 36423 H	
30	AP 21855 H	
31	AP 21856 H	
32	(19H 418 R	Screw, Cap
	(14H 257 R	Nut, Hex.
33	P 45721 H	
34	14H 255 R	
35	24H 161 A	
36	HZ 5870 HW	
37	P 43014 H	
38	11H 39 R	
39	H 4211 H	
40	24H 185 E	
41	11H 40 H	
42	P 45720 H	
43	P 39246 H	
44	13H 449 H	
45	(AP 12574 H	118 Links
	(AP 17307 H	107 Links
	(AP 17308 H	100 Links
46	JD 7759	
47	P 2998 H	



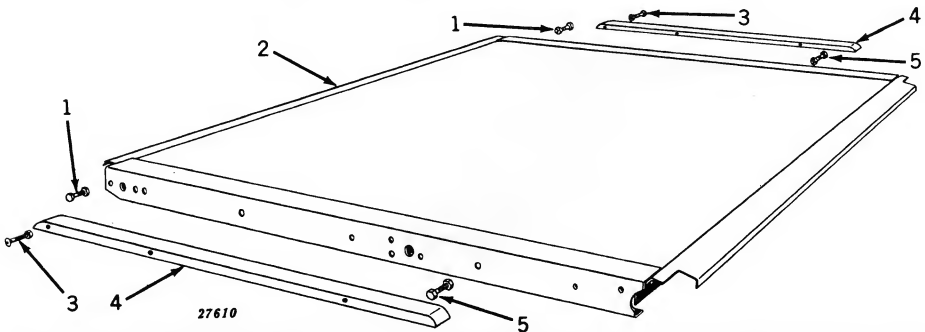
CONCAVE SNAP-ON COVERS (SPECIAL)



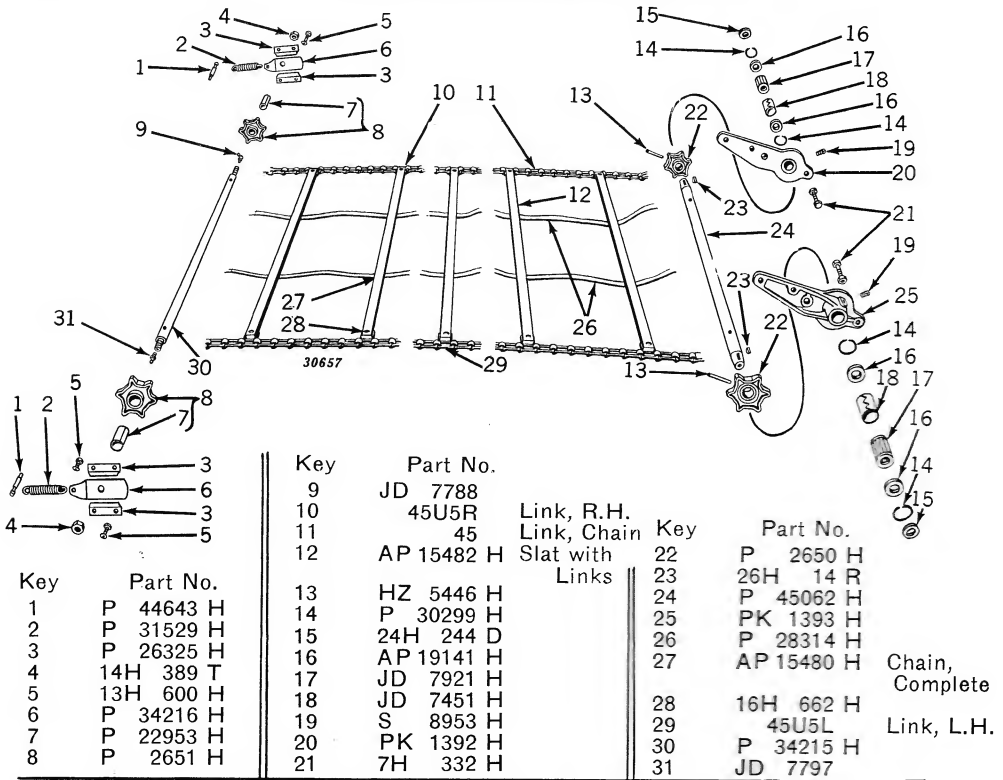


Key	Part No.	Key	Part No.	Key	Part No.
1	2H 155 H	16	2H 294 H	31	AP 17988 H
2	P 29904 H	17	AP 13745 H	32	P 32779 H
3	P 30007 H	18	24H 101 H	33	P 32714 H
4	14H 704 H	19	16H 1072 H	34	P 30299 H
5	P 35236 H	20	PK 97 H	35	24H 837 H
6	14H 342 A	21	P 34420 H	36	JD 7921 H
7	P 2686 H	22	P 34421 H	37	JD 7451 H
8	AP 13738 H	23	P 34418 H	38	P 2987 H
9	2H 191 H	24	P 34419 H	39	P 35235 H
10	26H 14 R	25	AP 14753 H	40	P 2610 H
11	P 32705 H	26	AP 18072 H	41	AP 17987 H
12	AP 18071 H	27	AP 14882 H	42	P 32715 H
13	P 32611 H	28	JD 7781	43	JD 7759
14	AP 11805 H	29	24H 916 H		
15	P 28570 H	30	14H 263 R		

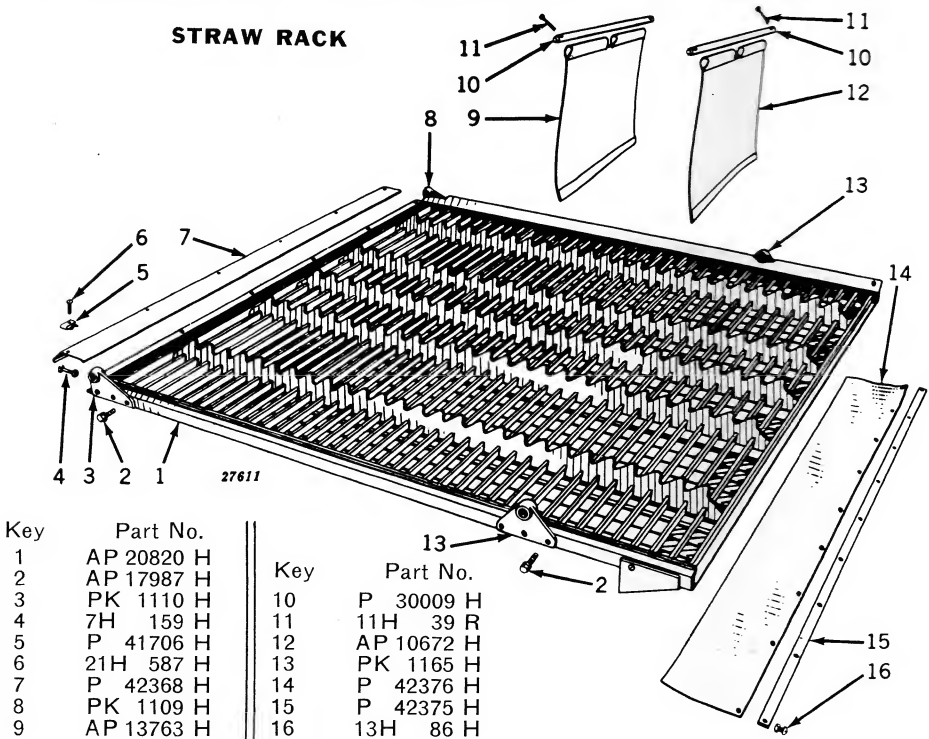
CONVEYOR BOTTOM AND CHAIN GUIDES

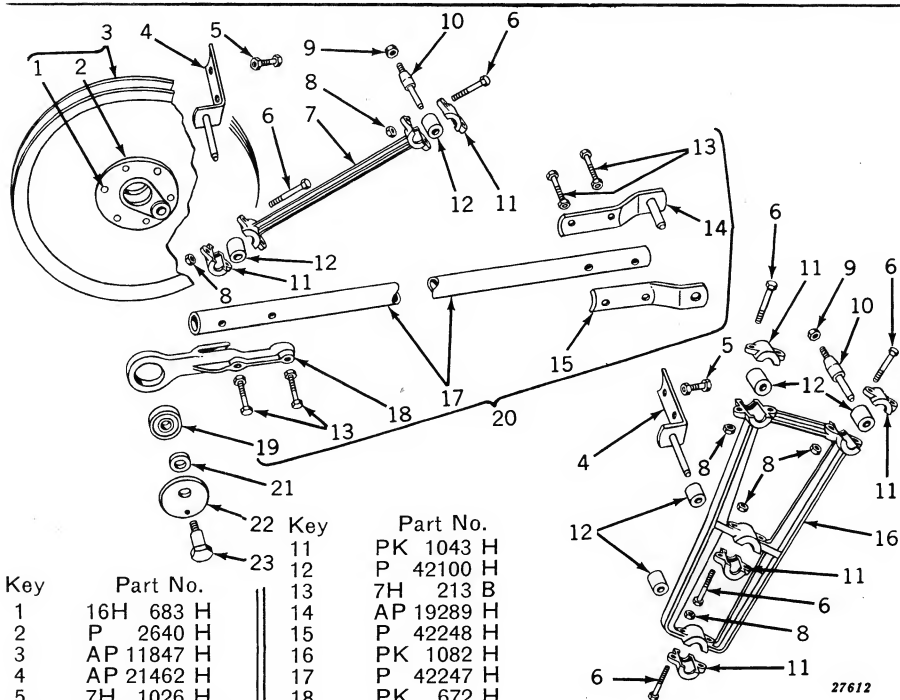


Key	Part No.	Key	Part No.
1	7H 159 H	4	P 42168 H
2	AP 21464 H	5	7H 313 H
3	13H 669 H		



STRAW RACK





Key

Part No.

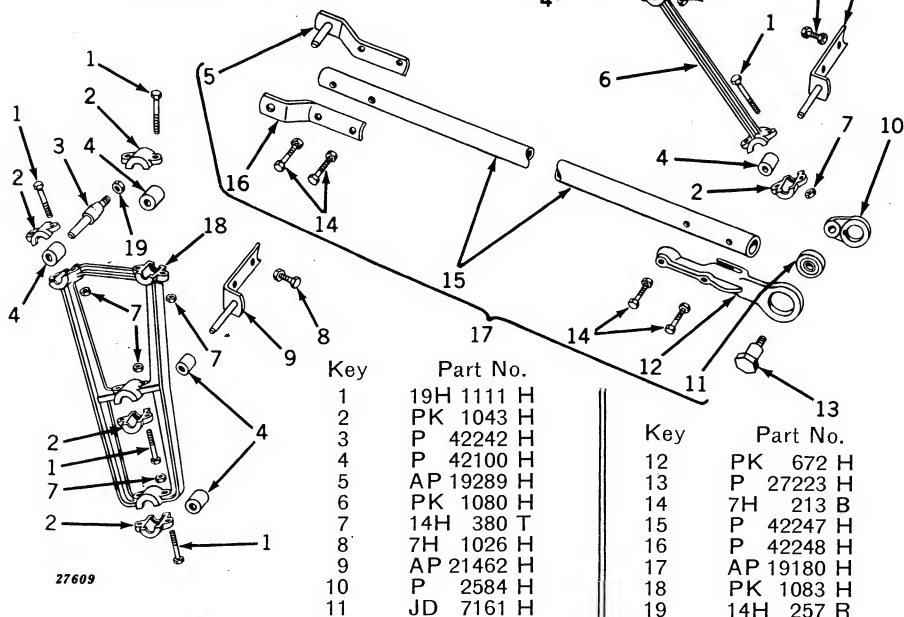
1	16H 683 H
2	P 2640 H
3	AP 11847 H
4	AP 21462 H
5	7H 1026 H
6	19H 1111 H
7	PK 1080 H
8	14H 380 T
9	14H 257 R
10	P 42242 H

Key

Part No.

11	PK 1043 H
12	P 42100 H
13	7H 213 B
14	AP 19289 H
15	P 42248 H
16	PK 1082 H
17	P 42247 H
18	PK 672 H
19	JD 7161 H
20	AP 19180 H
21	P 30191 H
22	P 30116 H
23	P 30187 H

STRAW RACK PITMAN AND ROCKER ARMS, L.H.



Key

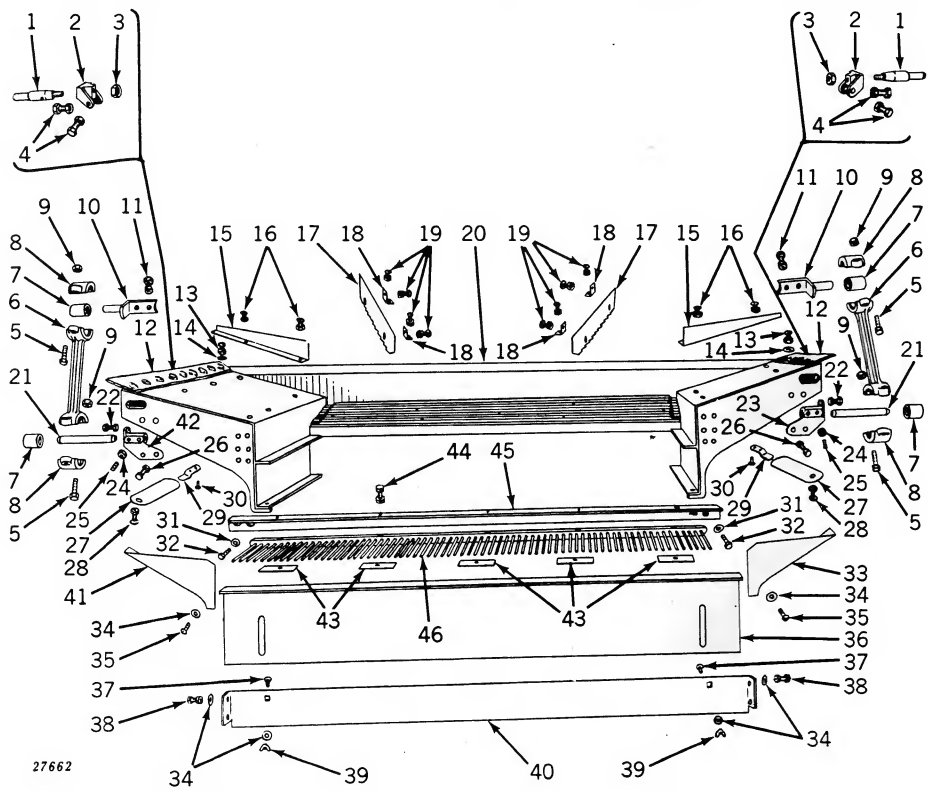
Part No.

1	19H 1111 H
2	PK 1043 H
3	P 42242 H
4	P 42100 H
5	AP 19289 H
6	PK 1080 H
7	14H 380 T
8	7H 1026 H
9	AP 21462 H
10	P 2584 H
11	JD 7161 H

Key

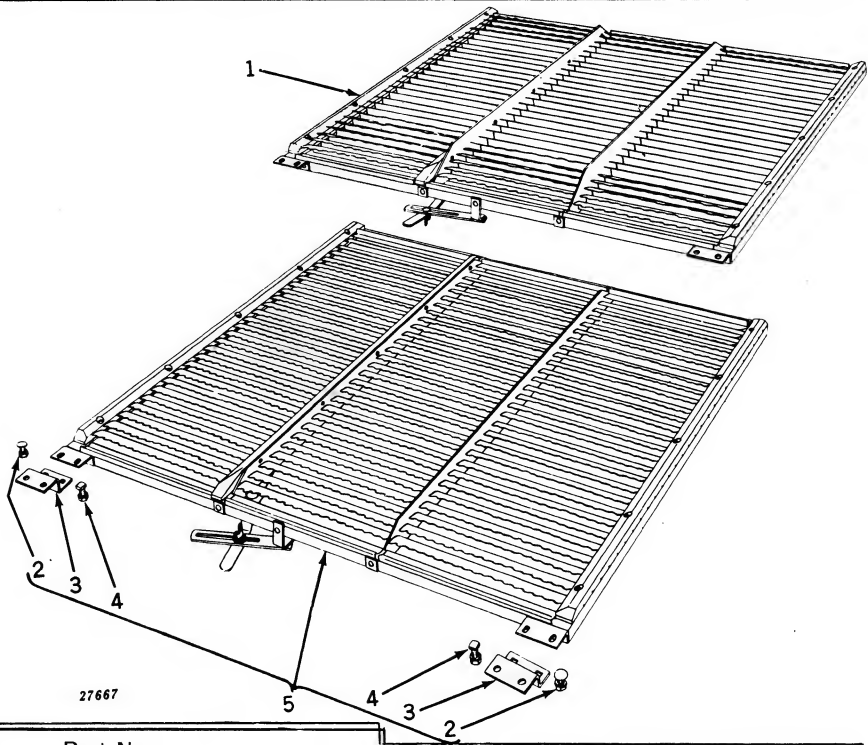
Part No.

12	PK 672 H
13	P 27223 H
14	7H 213 B
15	P 42247 H
16	P 42248 H
17	AP 19180 H
18	PK 1083 H
19	14H 257 R



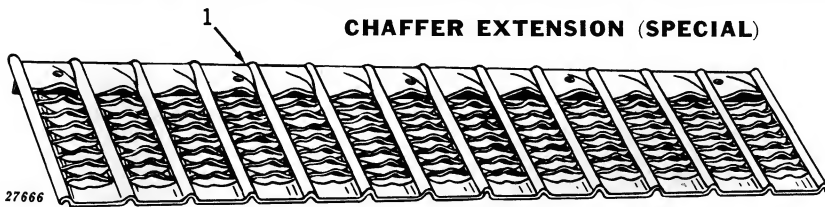
Key	Part No.
1	P 42243 H
2	P 2848 H
3	14H 257 R
4	7H 1026 H
5	19H 1111 H
6	PK 1081 H
7	P 42100 H
8	PK 1043 H
9	14H 380 T
10	AP 21462 H
11	7H 1026 H
12	P 29410 H
13	13H 597 H
14	24H 795 H
15	P 45125 H
16	13H 595 H
17	P 45127 H
18	P 45124 H
19	13H 594 H
20	AP 21504 H
21	P 42246 H
22	7H 58 H
23	PK 76 H
24	14H 342 A

Key	Part No.
25	22H 72 R
26	7H 155 H
27	P 26327 H
28	13H 595 H
29	P 10528 H
30	16H 244 H
31	24H 156 R
32	19H 218 D
33	P 32632 H
34	24H 139 A
35	13H 593 H
36	P 44546 H
37	2H 53 H
38	(19H 24 N Screw, Cap 14H 251 R Nut, Hex.
39	14H 703 H
40	P 34969 H
41	P 32633 H
42	PK 77 H
43	P 30188 H
44	7H 164 H
45	(AP 20913 H with Lug P 44548 H
46	AP 11511 H

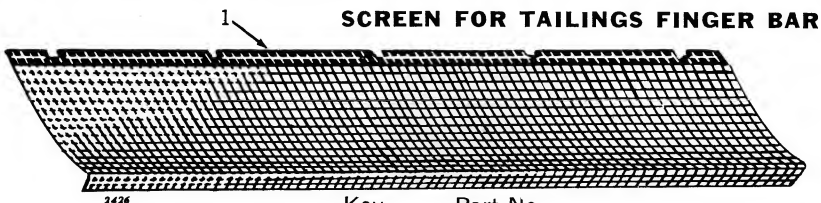


Key	Part No.
1	AP 21482 H
2	2H 156 H
3	P 45126 H
4	7H 159 H
5	AP 21952 H Adjustable
	AP 21453 H 3/8" Round Hole
	AP 21455 H 1/12" Round Hole
	AP 21457 H 1/10" Round Hole
	AP 21450 H 9/64" Round Hole

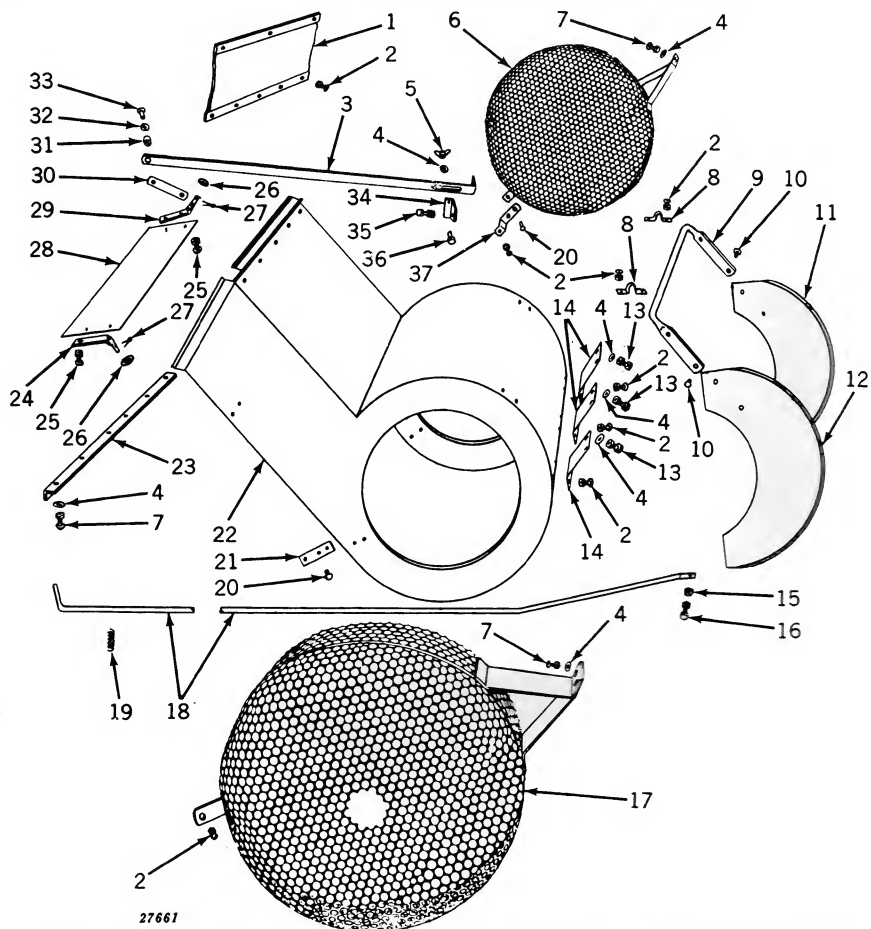
Key	Part No.
5	AP 21452 H 5/32" Round Hole
	AP 21447 H 9/32" Round Hole
	AP 21454 H 9/16" Round Hole
	AP 21456 H 13/64" Round Hole
	AP 21449 H 1/32" x 1/2" Slot
	AP 12707 H 24 x 24 Wire Mesh
	AP 21451 H 1/16" Round Hole
	AP 21448 H 1/16" x 3/8" Slot

**CHAFFER EXTENSION (SPECIAL)**

Key	Part No.
1	AP 13553 H

**SCREEN FOR TAILINGS FINGER BAR**

Key	Part No.
1	AP 14124 H

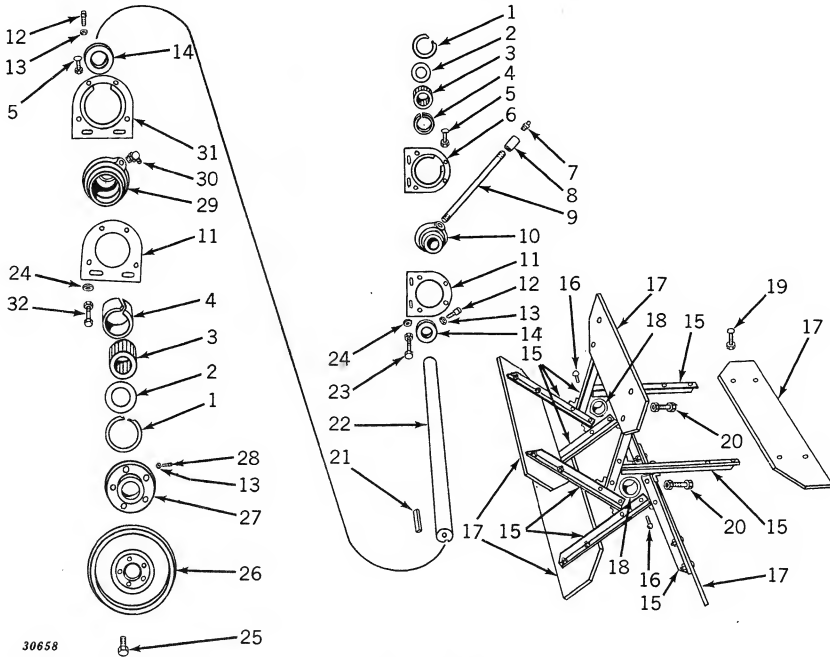


Key Part No.

1	AP 10569 H
2	13H 594 H
3	P 45333 H
4	24H 97 A
5	14H 703 H
6	AP 21638 H
7	13H 601 H
8	P 4413 H
9	P 27804 H
10	16H 267 T
11	P 29232 H
	P 33256 H (Feed Rolls)
12	P 29231 H
	P 33255 H (Feed Rolls)
13	13H 593 H
14	P 33887 H
15	14H 251 R
16	7H 63 H
17	AP 21637 H
18	P 28884 H

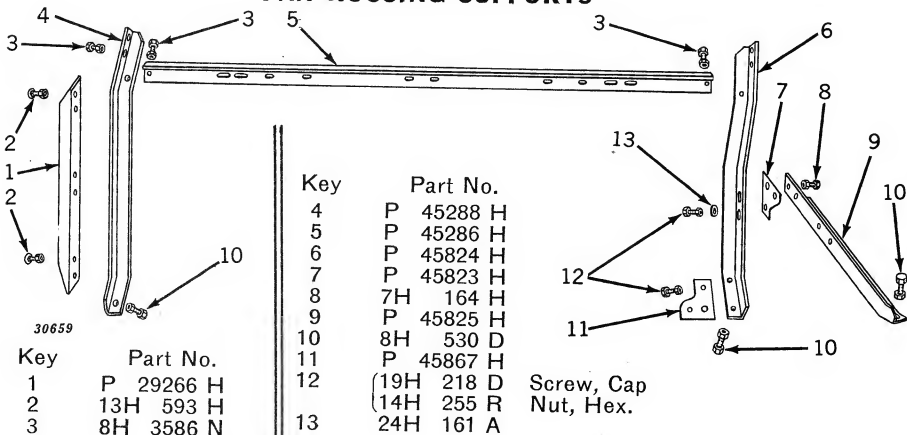
Key Part No.

19	HZ 5198 H
20	16H 239 H
21	P 35390 H
22	AP 15290 H
23	P 30435 H
24	P 26875 H
25	13H 593 H
26	24H 161 A
27	11H 39 R
28	P 27589 H
29	P 28922 H
30	P 28923 H
31	P 33476 H
32	24H 131 A
33	16H 648 A
34	P 35290 H
35	7H 1026 H
36	7H 65 H
37	P 45334 H



Key	Part No.	Key	Part No.
1	P 30298 H	25	AP 18071 H
2	24H 839 H	26	AP 13574 H
3	JD 7922 H		AP 13575 H 9-5/8" Dia.
4	JD 7452 H		AP 13576 H 8-11/16" Dia.
5	13H 595 H		AP 13610 H 10-3/4" Dia.
6	P 28933 H		AP 14014 H 11-3/4" Dia.
7	JD 7759		AP 14015 H 7-3/8" Dia.
8	15H 73 R		AP 14015 H 6-1/16" Dia.
9	29H 51 T	27	P 2945 H
10	P 2657 H	28	22H 72 R
11	P 28573 H	29	PK 616 H
12	22H 76 B	30	JD 7781
13	14H 342 A	31	P 38996 H
14	P 28577 H	32	7H 75 H
15	P 29291 H		
16	16H 663 A		
17	P 27583 H		
18	P 2619 H		
19	2H 58 H		
20	7H 209 H		
21	P 21247 H		
22	P 41735 H		
23	7H 1136 N		
24	24H 133 T		

FAN HOUSING SUPPORTS



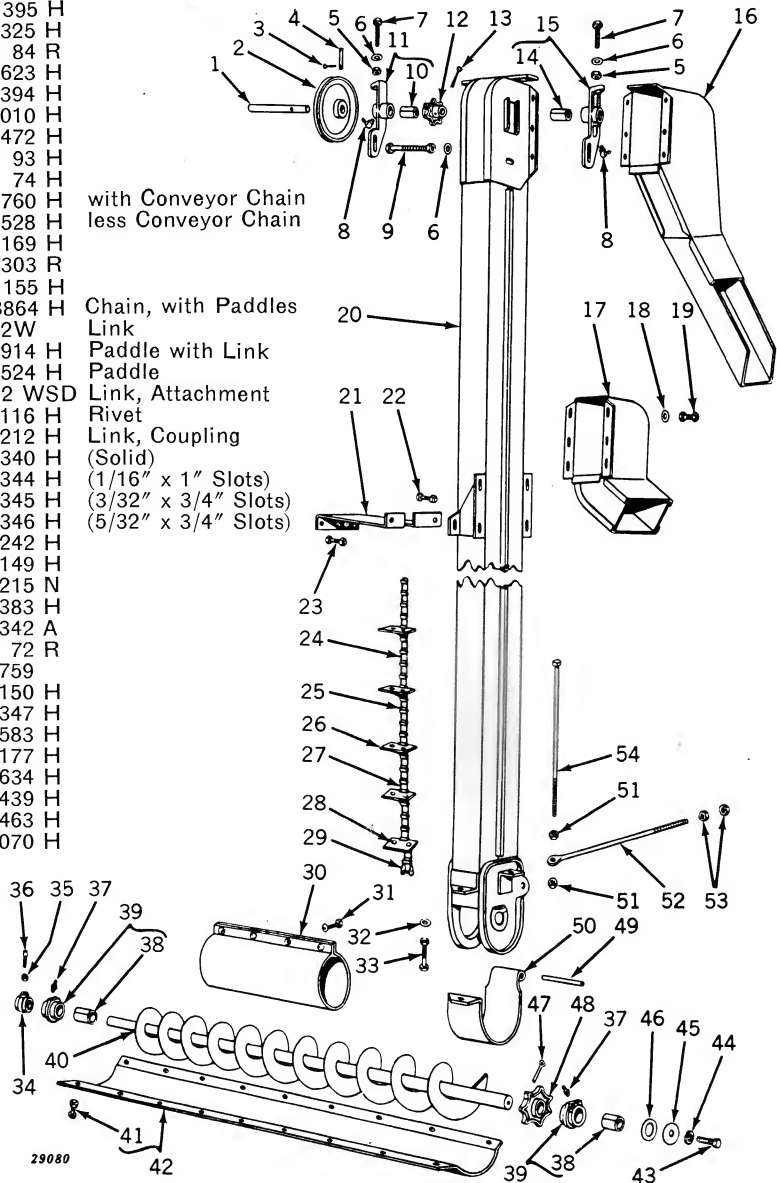
Key	Part No.
1	P 29266 H
2	13H 593 H
3	8H 3586 N

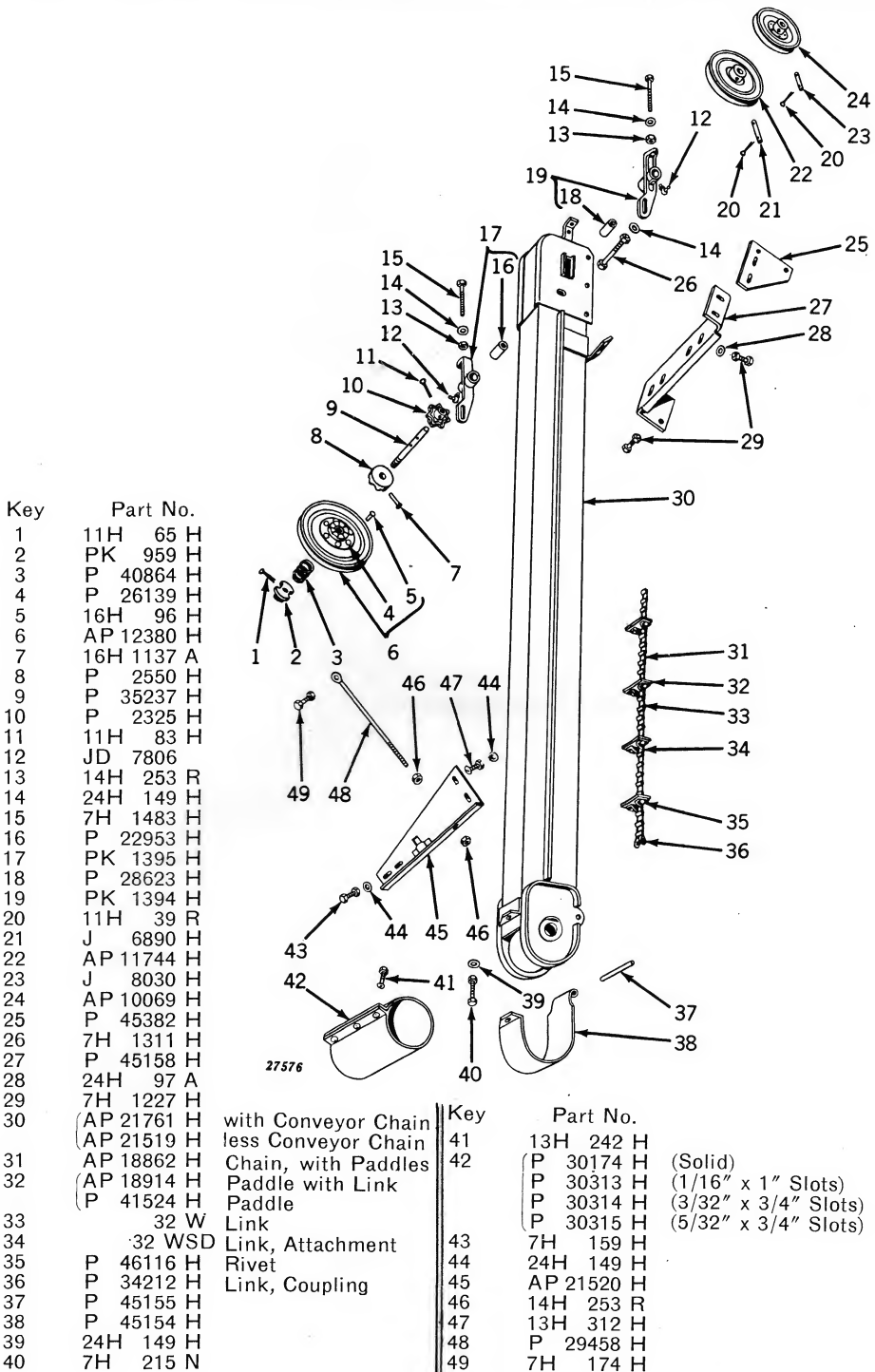
Key	Part No.
4	P 45288 H
5	P 45286 H
6	P 45824 H
7	P 45823 H
8	7H 164 H
9	P 45825 H
10	8H 530 D
11	P 45867 H
12	19H 218 D
13	14H 255 R
	24H 161 A

Screw, Cap
Nut, Hex.

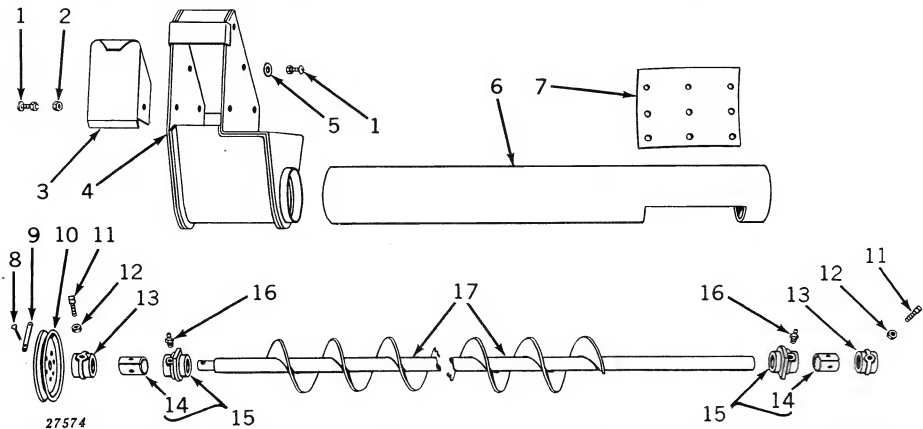
Key	Part No.
1	P 45172 H
2	AP 11745 H
3	11H 39 R
4	J 6890 H
5	14H 253 R
6	24H 147 H
7	7H 1482 H
8	JD 7806
9	7H 1311 H
10	P 22953 H
11	PK 1395 H
12	P 2325 H
13	11H 84 R
14	P 28623 H
15	PK 1394 H
16	AP 22010 H
17	AP 15472 H
18	24H 93 H
19	13H 74 H
20	(AP 21760 H with Conveyor Chain AP 21528 H less Conveyor Chain
21	P 45169 H
22	7H 303 R
23	7H 155 H
24	AP 18864 H
25	32W Link
26	(AP 18914 H Paddle with Link P 41524 H Paddle
27	32 WSD Link, Attachment
28	P 46116 H Rivet
29	P 34212 H Link, Coupling
30	(P 30340 H (Solid) P 30344 H (1/16" x 1" Slots) P 30345 H (3/32" x 3/4" Slots) P 30346 H (5/32" x 3/4" Slots)
31	13H 242 H
32	24H 149 H
33	7H 215 N
34	P 2383 H
35	14H 342 A
36	22H 72 R
37	JD 7759
38	E 150 H
39	P 2347 H
40	AP 13583 H
41	13H 177 H
42	AP 13634 H
43	19H 439 H
44	P 28463 H
45	P 32070 H

Key	Part No.
46	P 37172 H
47	11H 88 R
48	P 2324 H
49	P 45155 H
50	P 45154 H
51	14H 255 R
52	P 45156 H
53	14H 257 R
54	P 45171 H



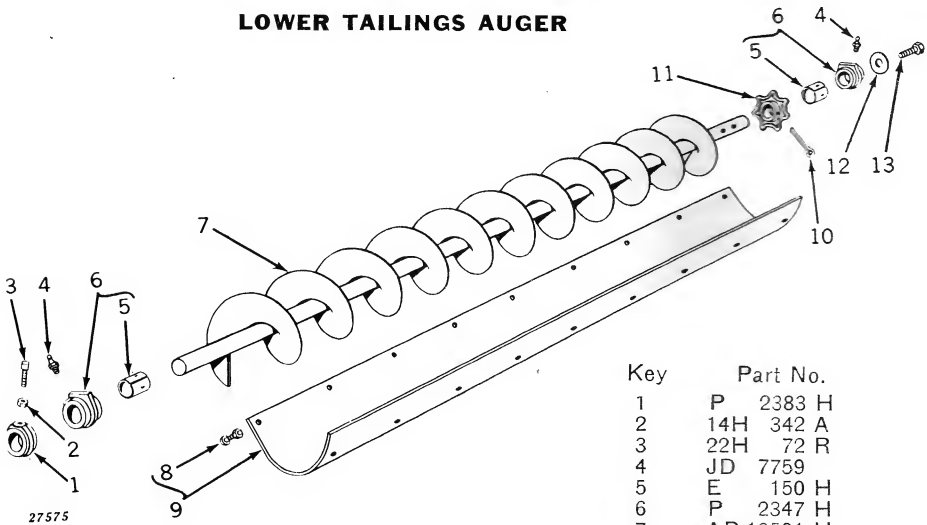


UPPER TAILINGS AUGER

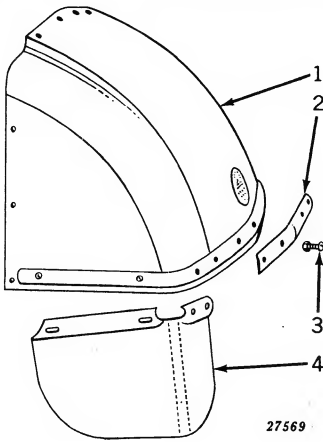


Key	Part No.	Key	Part No.
1	13H 177 H	10	AP 10069 H
2	14H 251 R	11	22H 72 R
3	P 45052 H	12	14H 342 A
4	AP 21459 H	13	P 2383 H
5	24H 795 H	14	E 150 H
6	AP 21460 H	15	P 2347 H
7	P 30014 H	16	JD 7759
8	11H 38 R	17	AP 14353 H
9	J 8030 H		

LOWER TAILINGS AUGER

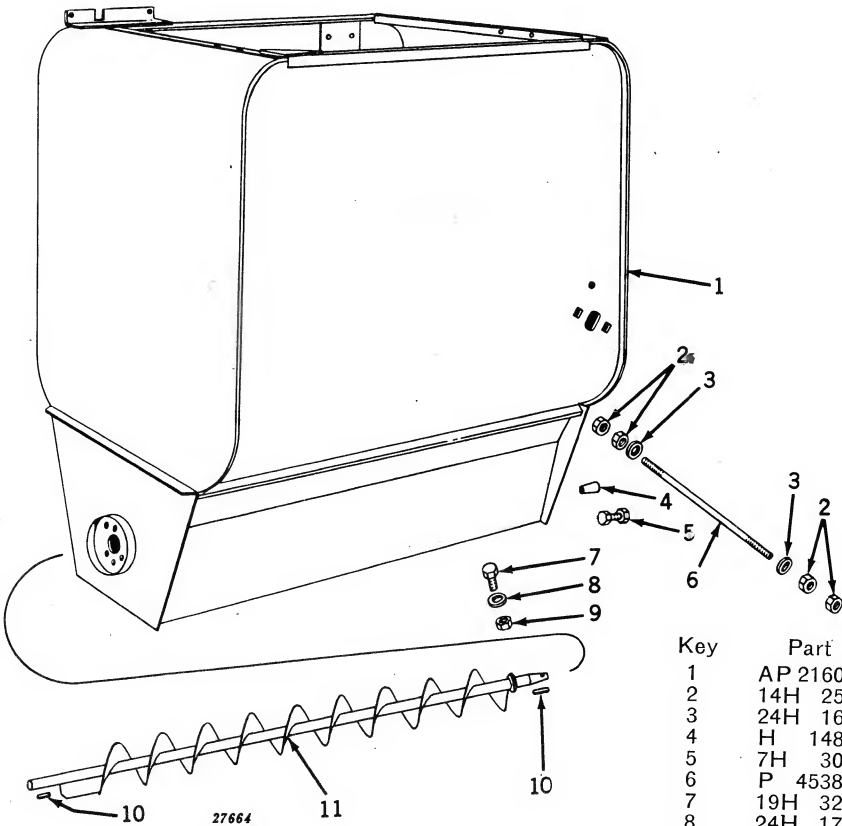


Key	Part No.
1	P 2383 H
2	14H 342 A
3	22H 72 R
4	JD 7759
5	E 150 H
6	P 2347 H
7	AP 13591 H
8	13H 177 H
9	AP 13635 H
10	11H 88 R
11	P 2324 H
12	P 32070 H
13	19H 436 H



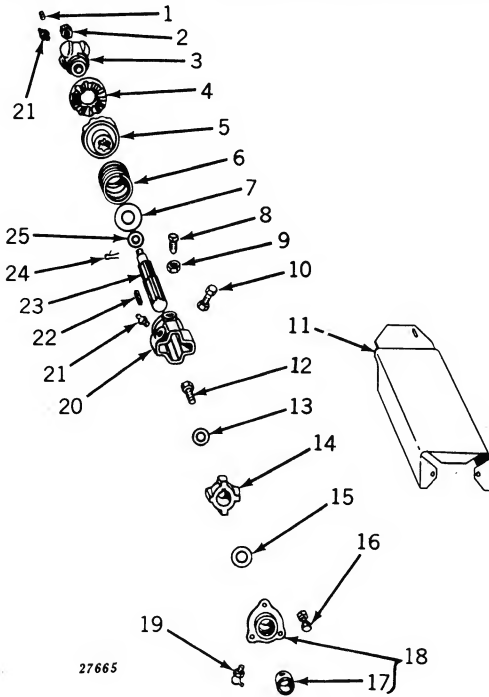
Key	Part No.
1	P 28993 H
2	P 45245 H
3	13H 195 H
4	(P 31765 H
	AP 22040 H Long, (Special)

GRAIN TANK



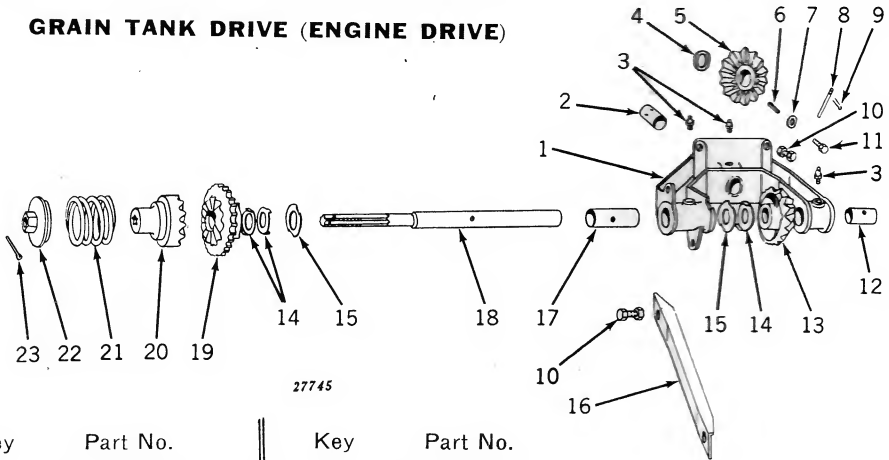
Key	Part No.
1	AP 21608 H
2	14H 255 R
3	24H 161 A
4	H 1488 H
5	7H 307 H
6	P 45389 H
7	19H 325 R
8	24H 178 A
9	14H 257 R
10	P 27895 H
11	AP 21598 H

GRAIN TANK DRIVE (POWER DRIVE)



Key	Part No.
1	S 8953 H
2	14H 521 M
3	P 2559 H
4	PK 1452 H
5	PK 1453 H
6	P 27808 H
7	24H 562 R
8	22H 72 R
9	14H 342 A
10	7H 796 R
11	AP 21614 H
12	AP 18071 H
13	24H 791 H
14	PK 626 H
15	J 3461 H
16	7H 159 H
17	E 124 H
18	P 2421 H
19	JD 7760
20	P 2558 H
21	JD 7759
22	B 5755 H
23	P 39018 H
24	11H 20 T
25	P 28692 H

GRAIN TANK DRIVE (ENGINE DRIVE)

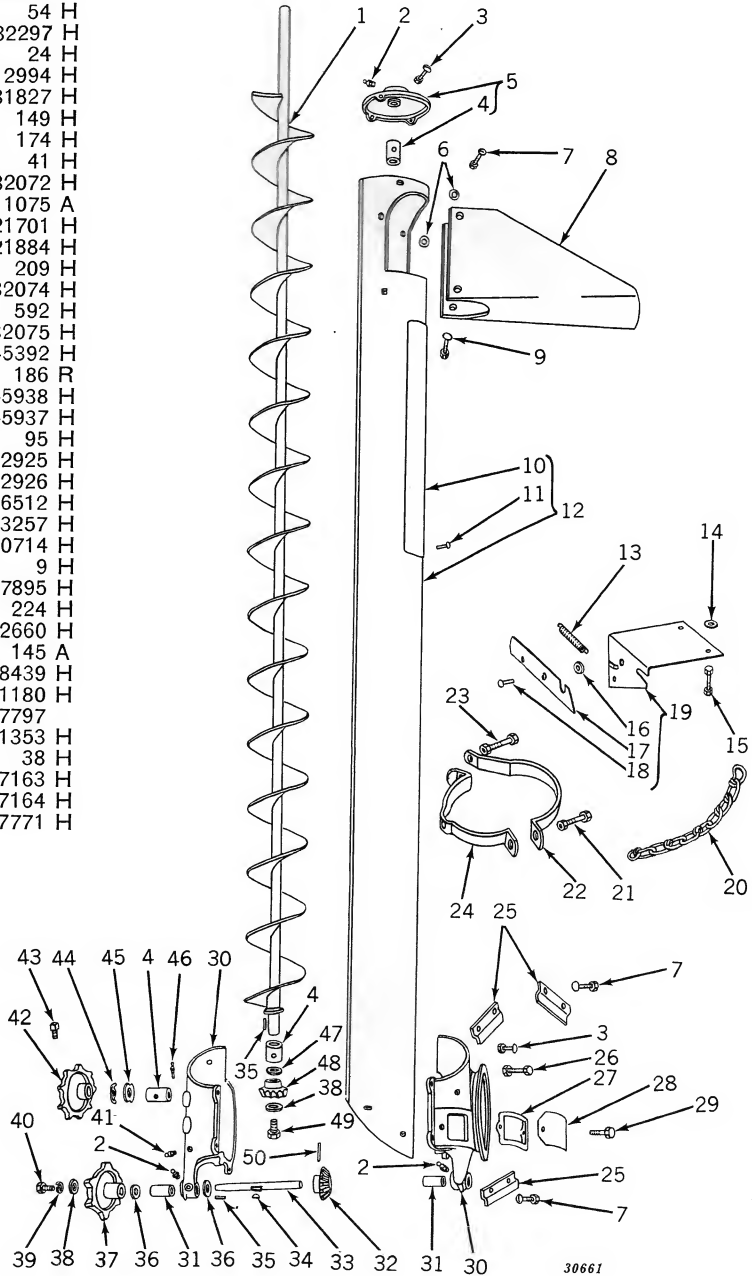


Key	Part No.
1	PK 1459 H
2	E 124 H
3	JD 7759
4	J 3461 H
5	P 39020 H
6	P 27895 H
7	24H 450 H
8	J 6890 H
9	11H 39 R
10	7H 1026 H
11	19H 105 R
12	E 150 H

Key	Part No.
13	P 39019 H
14	J 13727 H
15	J 13651 H
16	P 45939 H
17	P 39519 H
18	P 37860 H
19	PK 1455 H
20	PK 1454 H
21	B 5910 H
22	PK 556 H
23	11H 111 B

Key	Part No.
1	AP 13598 H
2	JD 7759
3	13H 195 H
4	P 21490 H
5	P 2467 H
6	24H 451 H
7	13H 177 H
8	P 28489 H
9	2H 54 H
10	P 32297 H
11	18H 24 H
12	AP 12994 H
13	P 31827 H
14	24H 149 H
15	7H 174 H
16	24H 41 H
17	P 32072 H
18	16H 1075 A
19	AP 21701 H
20	AP 21884 H
21	7H 209 H
22	P 32074 H
23	7H 592 H
24	P 32075 H
25	P 45392 H
26	7H 186 R
27	P 45938 H
28	P 45937 H
29	19H 95 H
30	P 2925 H
	P 2926 H
31	P 26512 H
32	P 33257 H
33	AP 20714 H
34	26H 9 H
35	P 27895 H
36	24H 224 H
37	P 2660 H
38	24H 145 A
39	P 28439 H
40	19H 1180 H
41	JD 7797
42	PK 1353 H
43	22H 38 H
44	S 7163 H
45	S 7164 H
46	JD 7771 H

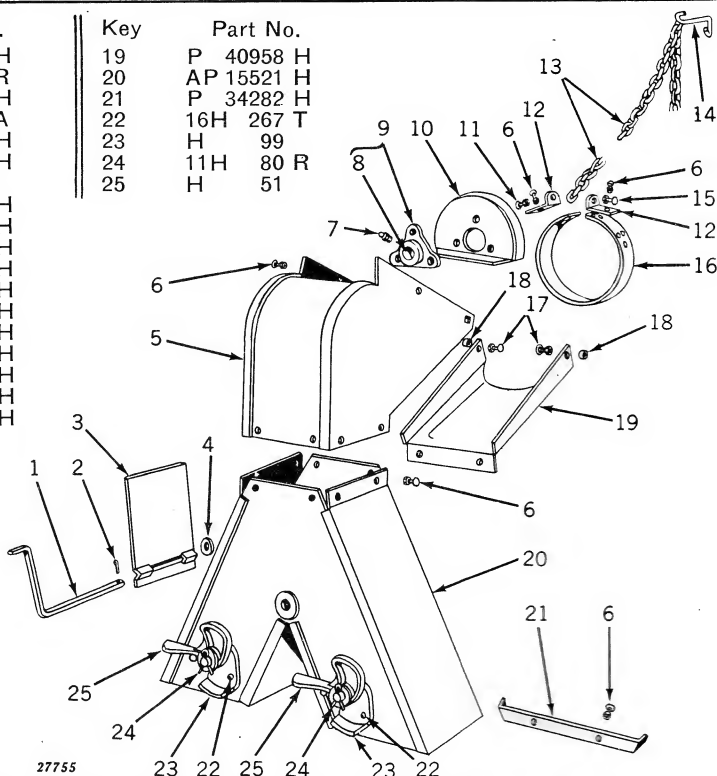
Key	Part No.
47	P 18467 H .125" Thick
	P 35797 H .060" Thick
	P 35802 H .036" Thick
48	P 33262 H
49	19H 105 R
50	P 36577 H



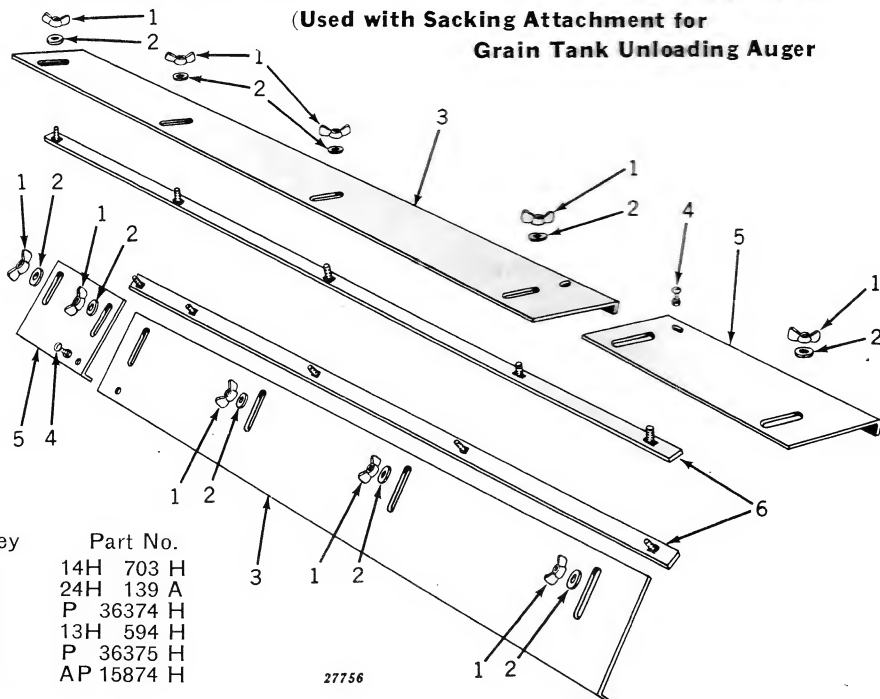
SACKING ATTACHMENT FOR GRAIN TANK UNLOADING AUGER

Key	Part No.
1	130188 H
2	11H 41 R
3	P 35788 H
4	24H 161 A
5	AP 18179 H
6	13H 594 H
7	JD 7759
8	P 21490 H
9	PK 261 H
10	AP 15518 H
11	13H 312 H
12	P 33844 H
13	AP 14297 H
14	P 33842 H
15	7H 377 H
16	P 33843 H
17	2H 151 H
18	24H 451 H

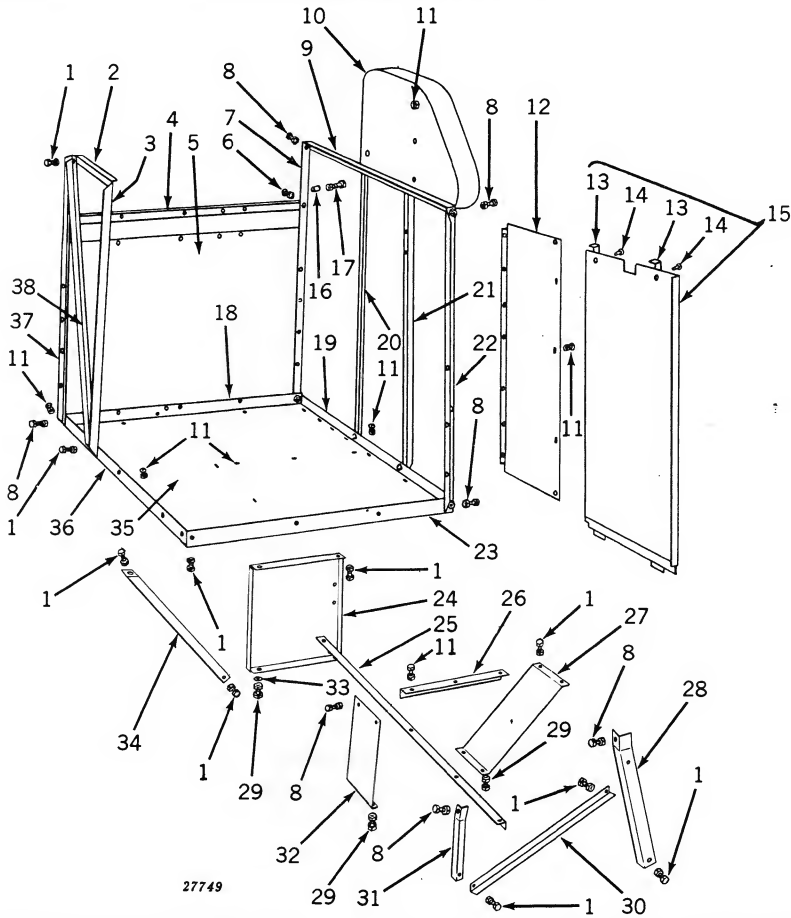
Key	Part No.
19	P 40958 H
20	AP 15521 H
21	P 34282 H
22	16H 267 T
23	H 99
24	11H 80 R
25	H 51

**VOLUME CONTROL PLATES OVER AUGER IN GRAIN TANK**

(Used with Sacking Attachment for
Grain Tank Unloading Auger)



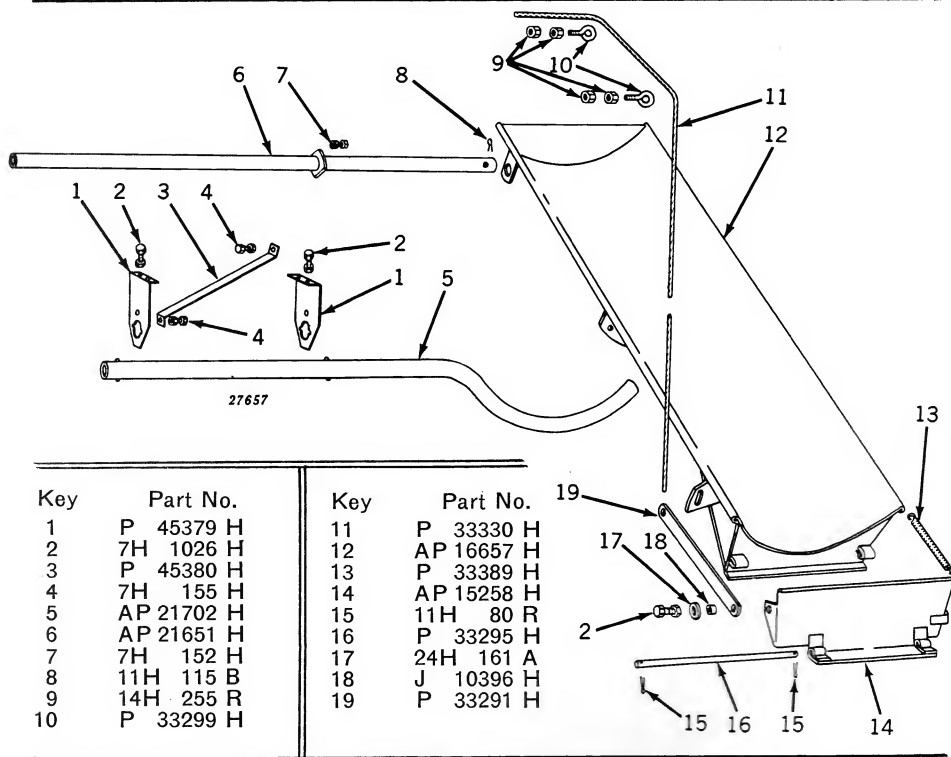
Key	Part No.
1	14H 703 H
2	24H 139 A
3	P 36374 H
4	13H 594 H
5	P 36375 H
6	AP 15874 H



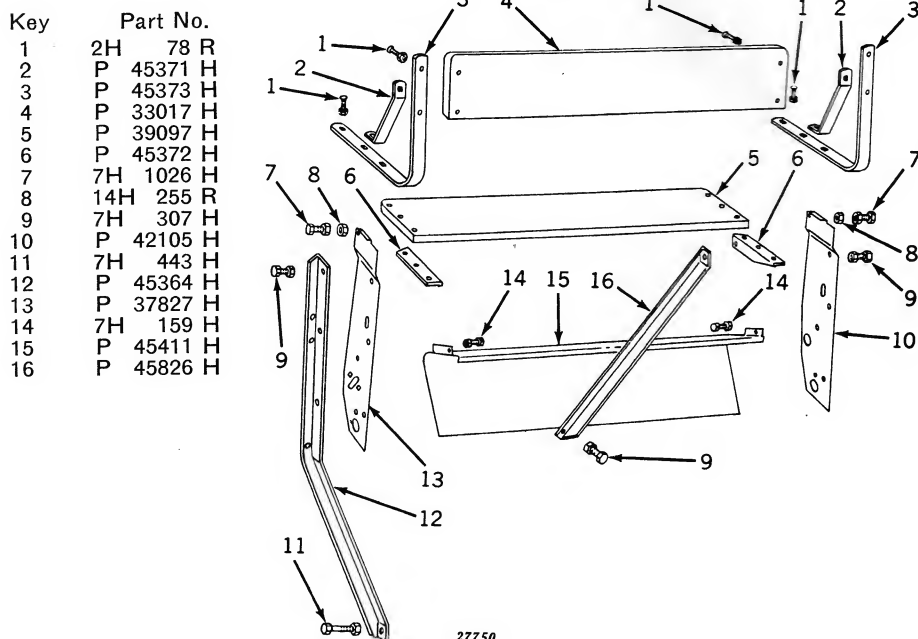
Key	Part No.
1	7H 1026 H
2	P 39012 H
3	P 45367 H
4	P 45369 H
5	P 45360 H
6	13H 593 H
7	P 45359 H
8	7H 307 H
9	P 35685 H
10	AP 17130 H
11	13H 594 H
12	P 45363 H
13	P 33022 H

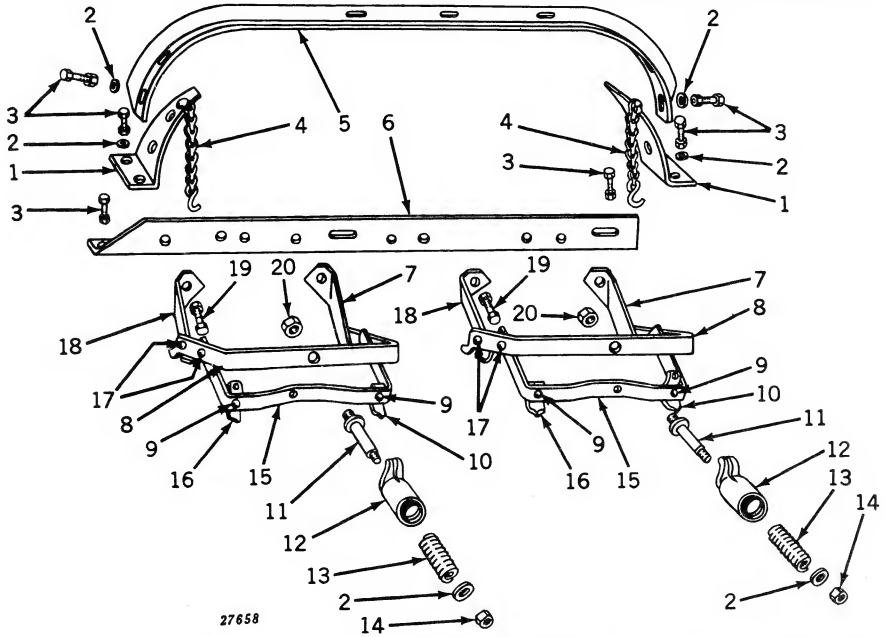
Key	Part No.
14	16H 648 A
15	AP 21703 H
16	28H 188 H
17	7H 377 H
18	P 45347 H
19	P 45349 H
20	P 45361 H
21	P 45362 H
22	P 45365 H
23	P 45346 H
24	P 45356 H
25	P 45345 H
26	P 45351 H

Key	Part No.
27	P 45355 H
28	P 45353 H
29	7H 557 H
30	P 45936 H
31	P 45352 H
32	P 45354 H
33	24H 178 A
34	P 45357 H
35	P 45350 H
36	P 45348 H
37	P 45358 H
38	P 45368 H



SEAT FOR SACKING PLATFORM

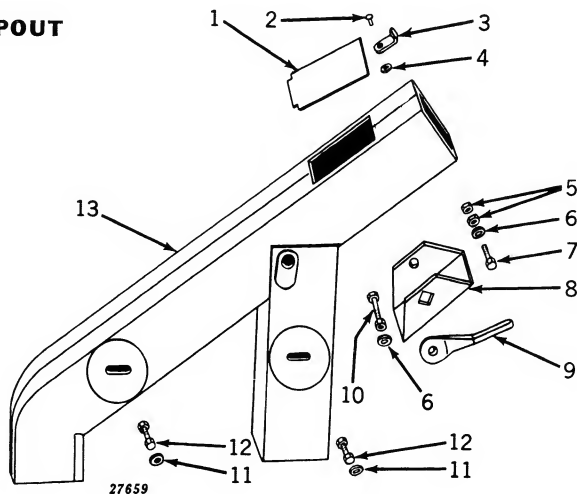


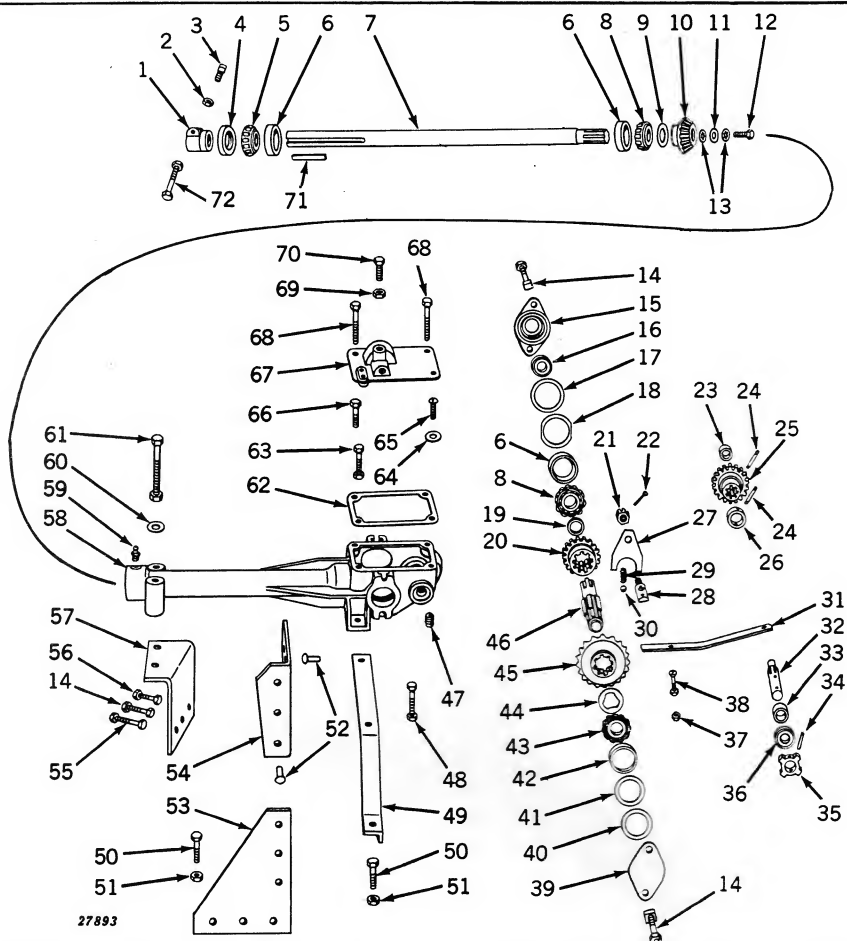


Key	Part No.	Key	Part No.	Key	Part No.
1	P 35693 H	8	P 13635 H	15	P 11131 H
2	24H 161 A	9	16H 645 A	16	P 41873 H
3	7H 307 H	10	P 41874 H	17	16H 663 A
4	AP 18092 H	11	P 13651 H	18	24H 795 H
5	P 45374 H	12	P 1221 H	19	P 13083 H
6	P 45375 H	13	HZ 5222 H	20	7H 1026 H
7	P 13084 H	14	14H 255 R		14H 346 A
					Rivet Washer

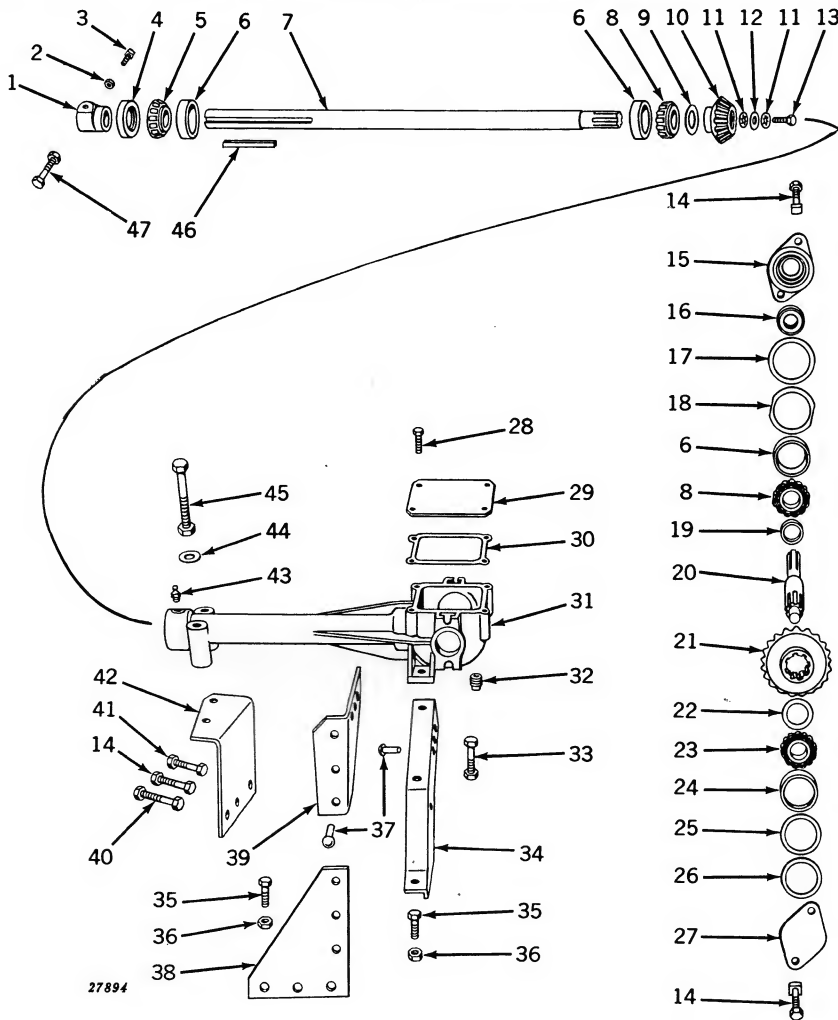
SACKING SPOUT

Key	Part No.
1	P 35704 H
2	16H 648 A
3	P 13171 H
4	24H 35 H
5	14H 340 H
6	24H 149 H
7	7H 166 H
8	P 35698 H
9	PK 256 H
10	7H 186 R
11	24H 161 A
12	7H 307 H
13	AP 17812 H



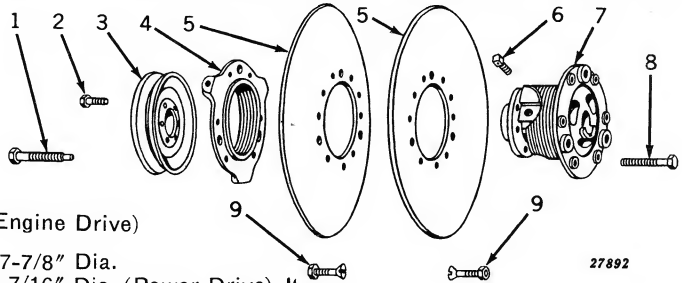


Key	Part No.	Key	Part No.	Key	Part No.
1	P 2363 H	25	P 29030 H	50	19H 1056 H
2	14H 342 A	26	P 28954 H	51	14H 257 R
3	22H 76 B	27	P 27424 H	52	16H 1325 H
4	P 24149 H	28	P 33033 H	53	P 45272 H
5	JD 8104 H	29	H 1154 H	54	P 45271 H
6	JD 7259 R	30	HZ 6040 H	55	7H 608 H
7	P 35624 H	31	P 32579 H	56	7H 570 M
8	JD 7388 H	32	P 28962 H	57	P 45274 H
9	(P 10940 H (.005") (P 10941 H (.010"))	33	P 27298 H	58	P 2603 H
10	P 27296 H	34	H 1706 H	59	JD 7759
11	P 35601 H	35	P 2463 H	60	24H 192 A
12	P 35548 H	36	J 10544 H	61	7H 940 H
13	P 35739 H	37	14H 609 E	62	P 28985 H
14	7H 580 H	38	13H 244 H	63	7H 200 H
15	P 2597 H	39	Z 976 H	64	24H 149 H
16	Z 6572 H	40	24H 880 H	65	21H 1039 H
17	24H 867 H	41	E 2627 H	66	19H 136 T
18	E 2628 H	42	JD 7438 H	67	P 2960 H
19	P 32395 H	43	JD 8128 H	68	AP 18071 H
20	P 32378 H	44	P 32379 H	69	14H 350 A
21	14H 520 A	45	P 31543 H	70	19H 647 H
22	11H 40 H	46	P 32380 H	71	T 3119 H
23	P 27411 H	47	15H 237 R	72	7H 396 H
24	P 27297 H	48	7H 754 H		
		49	P 45270 H		



Key	Part No.	Key	Part No.	Key	Part No.
1	P 2363 H	16	Z 6572 H	32	15H 237 R
2	14H 342 A	17	24H 867 H	33	7H 754 H
3	22H 76 B	18	E 2628 H	34	P 45270 H
4	P 24149 H	19	P 32395 H	35	19H 1056 H
5	JD 8104 H	20	P 34891 H	36	14H 257 R
6	JD 7259 R	21	P 34780 H	37	16H 1325 H
7	P 35624 H	22	P 34950 H	38	P 45272 H
8	JD 7388 H	23	JD 8128 H	39	P 45271 H
9	(P 10940 H (.005") P 10941 H (.010"))	24	JD 7438 H	40	7H 608 H
10	P 27296 H	25	E 2627 H	41	7H 570 M
11	P 35739 H	26	24H 880 H	42	P 45274 H
12	P 35601 H	27	Z 976 H	43	JD 7759
13	P 35548 H	28	AP 18071 H	44	24H 192 A
14	7H 580 H	29	P 45281 H	45	7H 940 H
15	P 2597 H	30	P 35118 H	46	T 3119 H
		31	PK 160 H	47	7H 396 H

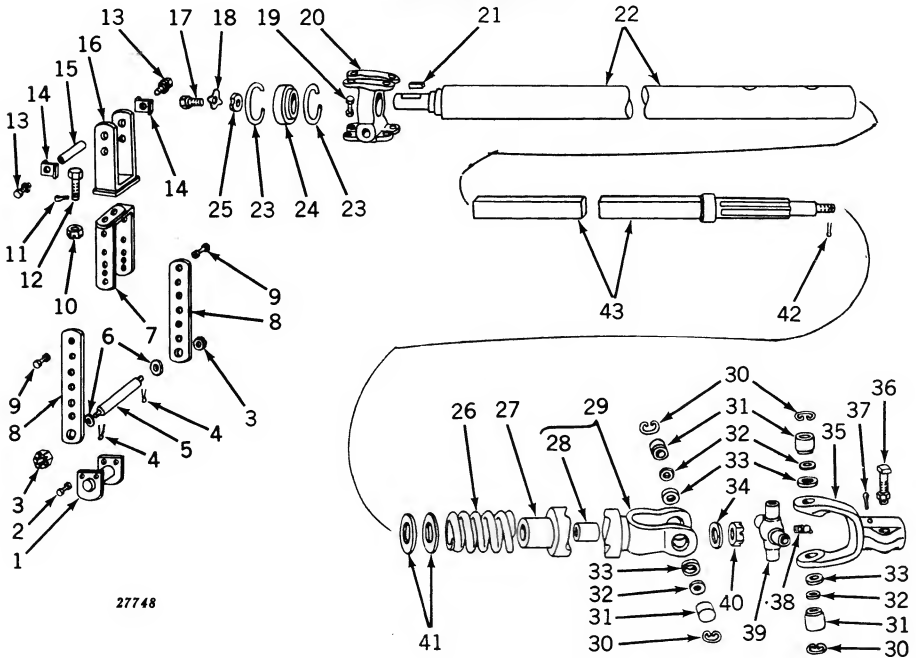
146 DRIVE SHEAVES FOR POWER DRIVE GEAR HOUSING OR ENGINE



Key	Part No.
1	P 45639 H (Engine Drive)
2	AP 18073 H
3	AP 21833 H 7-7/8" Dia.
	PK 694 H 8-7/16" Dia. (Power Drive)
	PK 695 H 9-1/2" Dia. (Power Drive)
	PK 696 H 6-3/4" Dia. (Power Drive)
4	PK 455 H
5	P 37492 H
6	H 2848 H (Power Drive)

Key	Part No.
7	PK 456 H (Power Drive)
	T 141 T (Engine Drive)
8	19H 384 H
9	13H 337 H

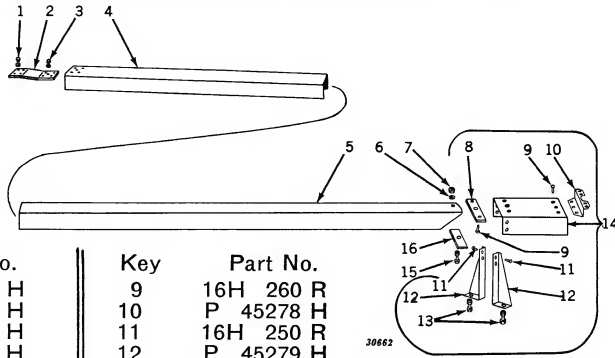
POWER SHAFT



Key	Part No.
1	AP 21611 H
2	7H 1026 H
3	14H 521 M
4	11H 22 R
5	P 38941 H
6	24H 184 R
7	AP 22033 H
8	P 45918 H
9	7H 335 R
10	14H 531 H
11	11H 43 R
12	P 45923 H
13	AP 18071 H
14	P 32175 H
15	P 27247 H

Key	Part No.
16	AP 13741 H
17	19H 326 F
18	J 17071 H
19	7H 169 H
20	P 2992 H
21	P 29928 H
22	AP 22110 H
23	P 42232 H
24	JD 7160 H
25	P 32938 H
26	P 27572 H
27	P 27576 H
28	P 31579 H
29	AP 20274 H
30	P 43059 H

Key	Part No.
31	P 31571 H
32	P 31574 H
33	P 31573 H
34	P 27575 H
35	P 43056 H
36	7H 814 H
37	11H 90 H
38	JD 7760
39	P 31572 H
40	P 31562 H
41	P 27573 H
42	11H 80 R
43	AP 12596 H

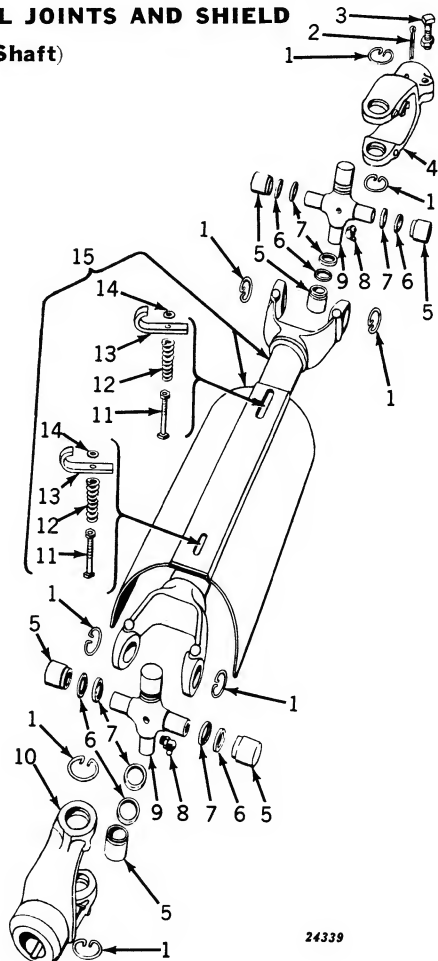


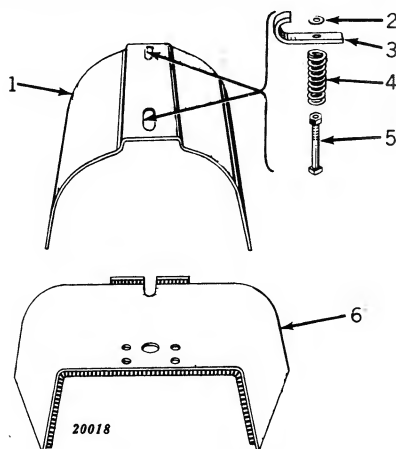
Key	Part No.	Key	Part No.
1	7H 174 H	9	16H 260 R
2	P 45277 H	10	P 45278 H
3	7H 159 H	11	16H 250 R
4	P 45284 H	12	P 45279 H
5	P 45285 H	13	7H 1158 N
6	24H 161 A	14	AP 21616 H
7	14H 255 R	15	7H 1026 H
8	P 45276 H	16	P 45930 H

TUBULAR SHAFT WITH UNIVERSAL JOINTS AND SHIELD

(Tractor to Power Shaft)

Key	Part No.
1	P 43059 H
2	11H 146 H
3	7H 849 H
4	P 43056 H 1-1/8" Splined
	P 43057 H 1-3/8" Splined
	P 43058 H 1-3/4" Splined
5	P 31571 H
6	P 31574 H
7	P 31573 H
8	JD 7760
9	P 31572 H
10	P 43055 H
11	7H 453 H
12	E 2666 H
13	P 41412 H
14	24H 161 A
15	AP 19866 H

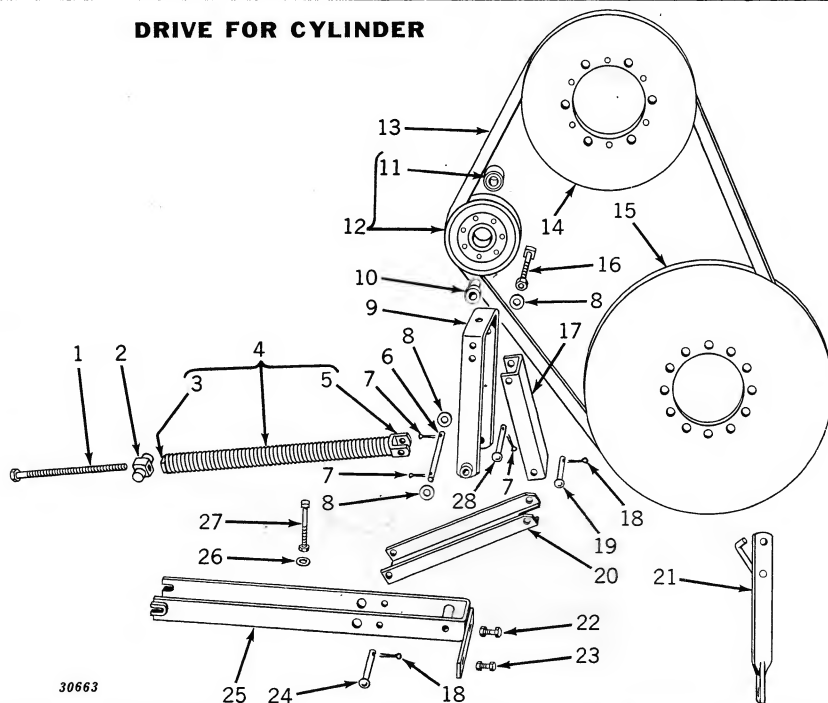




(Tractor to Power Shaft)

Key	Part No.
1	AP 12018 H
2	24H 161 A
3	P 41412 H
4	E 2666 H
5	7H 453 H
6	AZ 3251 H

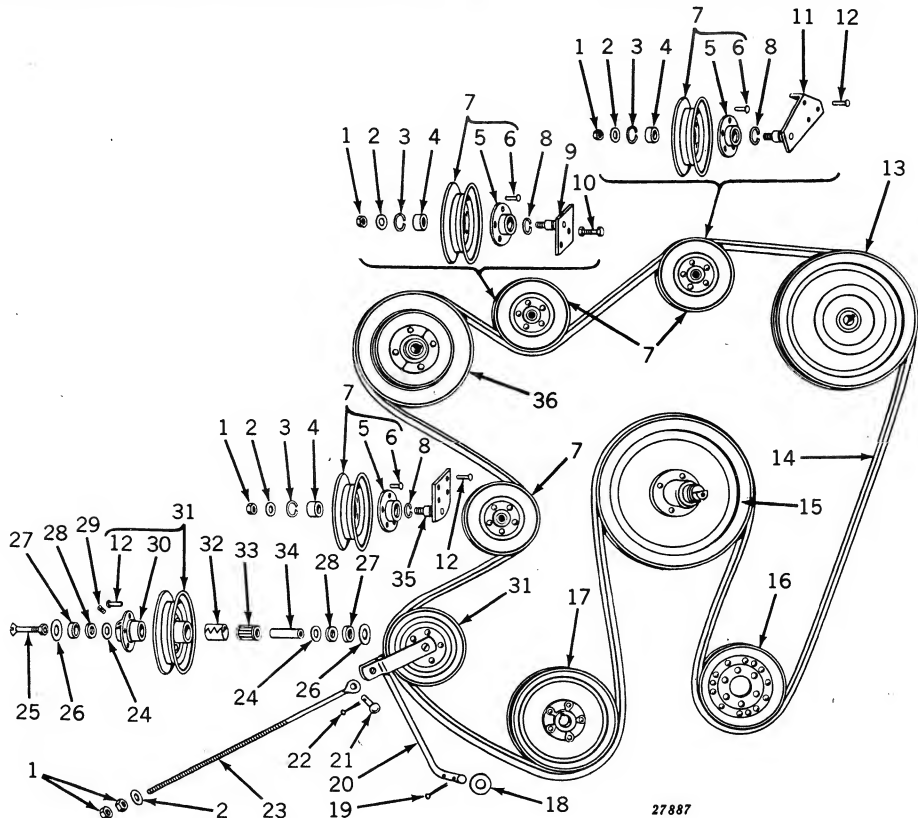
DRIVE FOR CYLINDER



Key	Part No.
1	8H 3611 H
2	PK 1265 H
3	Z 558 H
4	AP 20194 H
5	PK 1264 H
6	P 45451 H
7	11H 41 R
8	24H 192 A
9	AP 21693 H
10	P 43625 H

Key	Part No.
11	JD 7158 H
12	AP 13815 H
13	P 27312 H
14	P 43605 H
15	P 37492 H
16	8H 2602 N Bolt
17	P 43623 H Nut
18	11H 80 R
19	Z 5047 H

Key	Part No.
20	P 43622 H
21	AP 11771 H
22	7H 557 H
23	7H 303 H
24	K 5189 H
25	AP 21646 H
26	24H 102 H
27	7H 500 H
28	P 45448 H

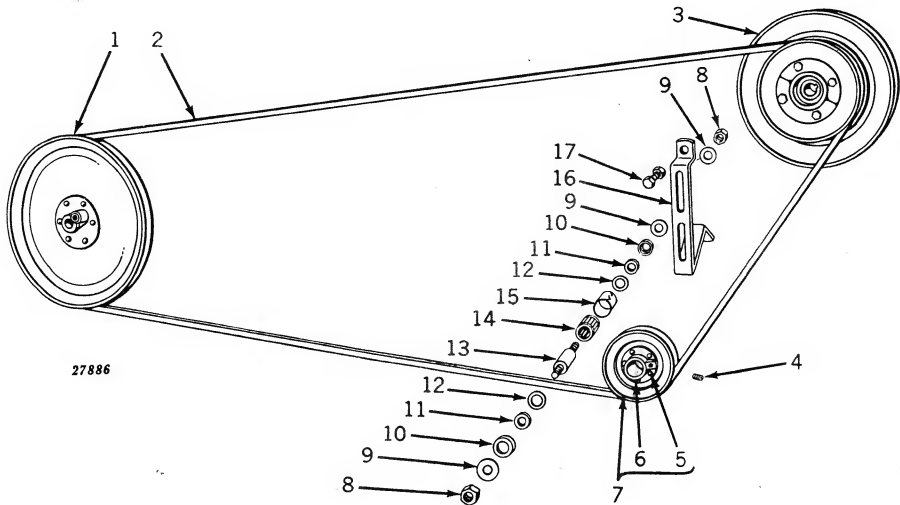


27887

Key	Part No.
1	14H 95 A
2	24H 161 A
3	P 35533 H
4	JD 7161 H
5	P 2977 H
6	16H 663 H
7	AP 17774 H
8	P 44483 H
9	AP 20872 H
10	7H 332 H
11	AP 21347 H
12	16H 677 A
13	AP 13655 H
14	P 30120 H
15	AP 18229 H
16	AP 21833 H 7-7/8" Dia.
	PK 694 H 8-7/16" Dia. (Power Drive)
	PK 695 H 9-1/2" Dia. (Power Drive)
	PK 696 H 6-3/4" Dia. (Power Drive)
17	AP 13574 H 9-5/8" Dia.
	AP 13575 H 8-11/16" Dia.
	AP 13576 H 10-3/4" Dia.
	AP 13610 H 11-3/4" Dia.
	AP 14014 H 7-3/8" Dia.
	AP 14015 H 6-1/16" Dia.

Key	Part No.
18	24H 206 H
19	11H 43 R
20	AP 21692 H
	AP 21854 H (Slow Speed Cylinder Attachment)
21	H 4211 H
22	11H 39 R
23	P 43014 H
24	J 16160 H
25	13H 444 H
26	24H 208 H
27	J 16162 H
28	J 16161 H
29	S 8953 H
30	PK 1038 H
31	AP 18948 H
32	JD 8300 H
33	JD 7923 H
34	P 35175 H
35	AP 20873 H
36	AP 14882 H

DRIVE FOR STRAW RACK AND CONVEYOR



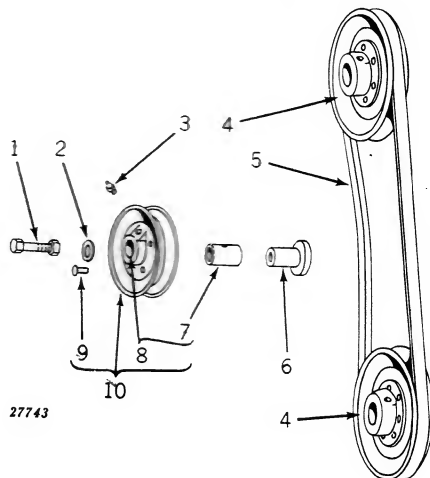
Key	Part No.
1	AP 11847 H
2	P 27108 H
3	AP 14882 H
4	S 8953 H
5	16H 671 H
6	PK 1458 H

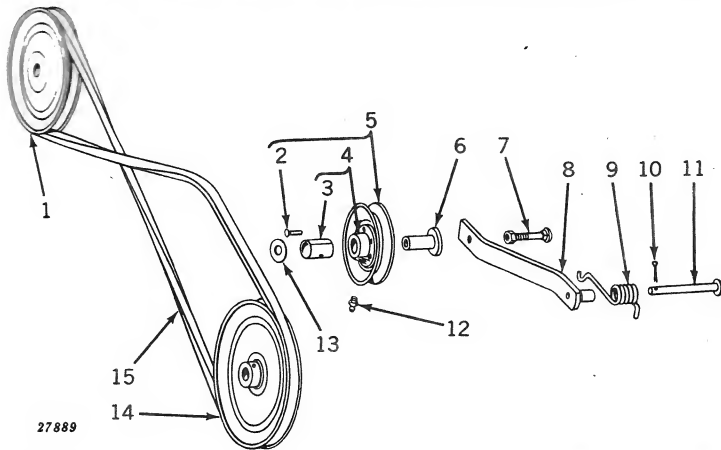
Key	Part No.
7	AP 22064 H
8	14H 99 A
9	24H 802 H
10	J 16162 H
11	J 16161 H
12	J 16160 H

Key	Part No.
13	P 45935 H
14	JD 7923 H
15	JD 8300 H
16	P 32308 H
17	7H 1026 H

DRIVE FOR UPPER TAILINGS AUGER

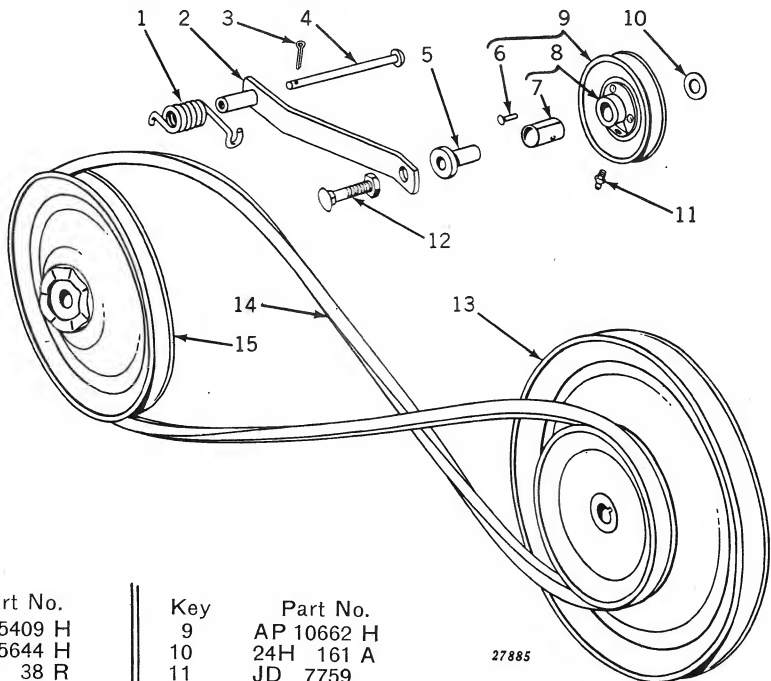
Key	Part No.
1	7H 432 H
2	24H 161 A
3	JD 7759
4	AP 10069 H
5	P 37230 H
6	P 29267 H
7	P 26512 H
8	P 2437 H
9	16H 278 H
10	AP 12369 H



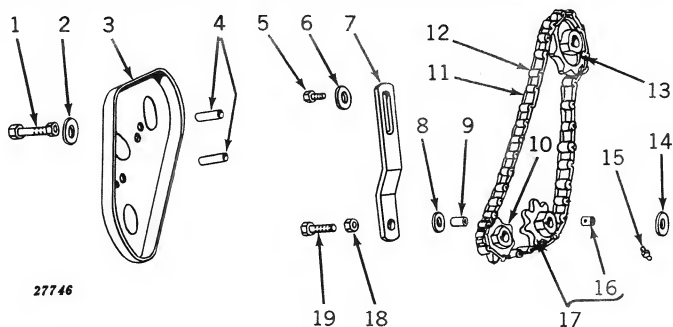


Key	Part No.	Key	Part No.	Key	Part No.
1	AP 11745 H	6	P 28070 H	11	P 40499 H
2	16H 278 H	7	2H 373 R	12	JD 7759
3	P 26512 H	8	AP 15644 H	13	24H 161 A
4	P 2437 H	9	P 35409 H	14	AP 11744 H
5	AP 10662 H	10	11H 38 R	15	P 35760 H

DRIVE FOR TAILINGS ELEVATOR



Key	Part No.	Key	Part No.
1	P 35409 H	9	AP 10662 H
2	AP 15644 H	10	24H 161 A
3	11H 38 R	11	JD 7759
4	P 40499 H	12	2H 373 R
5	P 28070 H	13	AP 13655 H
6	16H 278 H	14	(P 29287 H (Regular)
7	P 26512 H		(P 32058 H (Feed Rolls)
8	P 2437 H	15	AP 12380 H



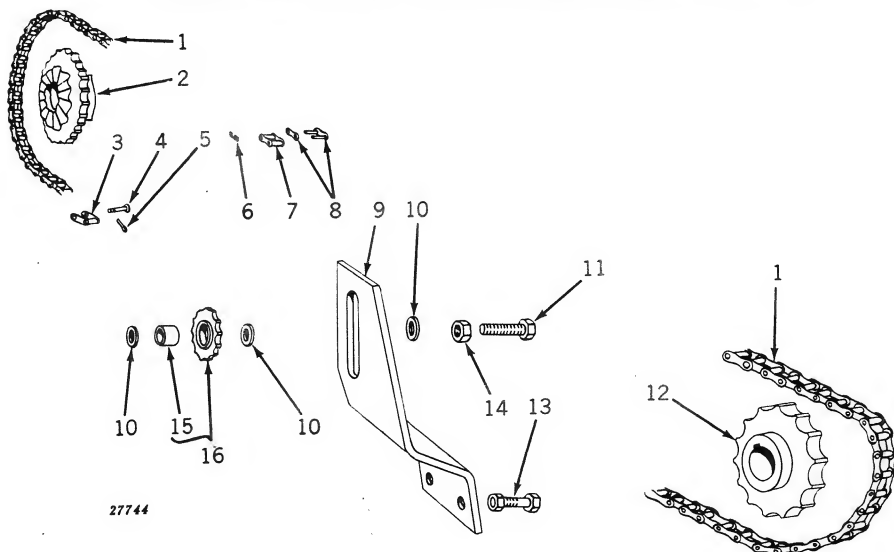
27746

Key	Part No.
1	7H 231 H
2	24H 149 H
3	P 32841 H
4	P 44542 H
5	19H 201 T
6	24H 161 A
7	P 32925 H

Key	Part No.
8	24H 983 H
9	P 41011 H
10	P 2660 H
11	AP 12600 H
12	32W
13	PK 1353 H
14	24H 224 H

Key	Part No.
15	JD 7797
16	P 26682 H
17	P 2429 H
18	14H 255 R
19	19H 268 H

DRIVE FOR GRAIN TANK AUGER (ENGINE DRIVE)



27744

Key	Part No.
1	AP 6093 H
2	PK 1455 H
3	P 20352 H
4	P 29361 H
5	11H 2 H
6	P 21010 H

Key	Part No.
7	P 20350 H
8	P 20351 H
9	P 45571 H
10	24H 454 R
11	19H 239 T
12	L 4701 T

Key	Part No.
13	7H 570 M
14	14H 255 R
15	JD 7172 H
16	J 1269 H



Farm Accidents Can Be Prevented *with Your Help*

NO accident prevention program can be successful without the whole-hearted cooperation of the person who is directly responsible for the operation of equipment.

To read accident reports from all over the Country is to be convinced that a large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the harvest field, or in the industrial plant, can be safer than the man who is at the controls. If farm accidents are to be prevented—and they can be prevented—it will be done by the operators who accept a full measure of their responsibility.

It is true that the designer, the manufacturer, the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that "*the best kind of a safety device is a careful operator.*" We ask you to be that kind of an operator.

NATIONAL SAFETY COUNCIL

JOHN DEERE

Quality Equipment

FOR YOUR FARMING OPERATIONS

TRACTORS: Standard-tread, general-purpose, and orchard, in sizes and types for every farm, crop, and purpose. Tire pumps.

PLOWS: All sizes and types, including integral moldboard and disk plows for John Deere general-purpose tractors. Disk plows. Middlebreakers. Disk tillers in all sizes. Plow bottoms and shares of steel or deep-chilled iron.

LISTERS: One-, two-, three-, and four-row for cotton, corn, and other crops. Integral middlebreakers and bedders and bedder-planters for John Deere general-purpose tractors.

HARROWS: Single- and double-action, disk types. Offset disk harrows. Spike-tooth harrows for horse and tractor operation, spring-tooth harrows, and spring-tooth weed destroyers. Power-driven and rolling stalk cutters.

DEEP-TILLAGE EQUIPMENT: Panbreakers and chisels.

TOOL CARRIERS: Integral and drawn tool carriers available with a variety of Quik-Tatch implements.

EARTH-MOVING MACHINERY: Landshapers, land levelers, bulldozers, back scrapers, and rear dozers. Snow plows. Disk terracers.

GRAIN DRILLS: Tractor- and horse-drawn grain drills in a size and type for every drilling job. Plain drills, fertilizer-grain drills, press drills, plow press drills, lister grain drills, and grass seed drills available. Adjustable-gate fluted force-feeds or double-run feeds. Choice of furrow openers. Fertilizer attachments available. Lime and fertilizer distributors. Tiller-seeders. Packers.

PLANTERS: Two- and four-row drawn-type for corn, cotton, peanuts, and many other crops. Multi-row planters for beets, beans, and other narrow-row crops, with or without fertilizer attachment. One-, two-, and four-row planting and fertilizing attachments for cultivators. Transplanters.

POTATO MACHINERY: One-, two-, and four-row planters, with or without fertilizer attachment. One- and two-row tractor-drive diggers.

CULTIVATORS: One-, two-, four-, and six-row for surface-planted crops; one-, two-, and four-row for listed crops. Integral and drawn field and orchard cultivators with stiff or spring teeth. Alfalfa cultivators. Beet and bean cultivators. Deep tillage chisel cultivators. Rotary hoes. Rotary hoe attachment for tractor cultivators. Rod weeders.

DUSTERS: For corn, cotton, and vegetables.

HAY MACHINERY: Power-driven mowers, tractor-drawn mower. Side-delivery rakes, sulky rakes. Automatic pickup baler. Field hay chopper.

HARVESTING MACHINERY: Combines. Windrowers. Grain binders, corn binders. Power-driven one- and two-row corn pickers. One-row corn snapper. Forage harvester. Forage blower. Bean harvesters. Peanut pullers. Cotton harvesters. Cotton pickers. Beet harvesters.

ELEVATORS: Portable, for ear corn, small grains, and baled hay; portable type for small grains only.

HAMMER AND ROUGHAGE MILLS.

MANURE HANDLING EQUIPMENT: Tractor- and horse-drawn spreaders. Lime spreading attachment. Manure loaders.

SHELLERS: For hand and power use.

FARM WAGONS: All-steel rubber-tired wagons to meet all farm needs.

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